



C0 Remote Handling Facility Status

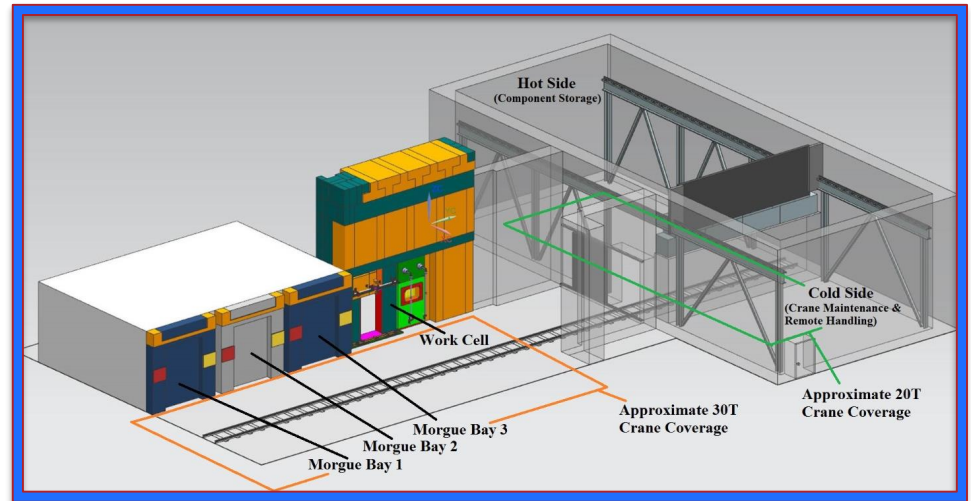
Cory F. Crowley

TSD Topical Meeting

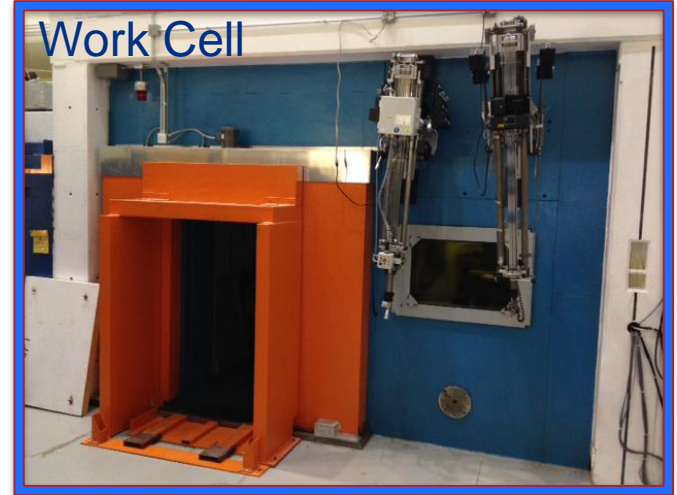
13 December 2018

Overview

- Existing Facility
- Disposal
 - Major Components
 - Transfer Process
- Current Status
 - Improved Hot Handling & Storage Facility
 - Storage Area & IP-1 Boxes
 - Shielding Doors
 - Remaining Work



Existing Facility



Existing Facility

- C0 Operational Needs
 - Remote handling / autopsy investigations.
 - Disposal staging area.
 - Provide long term storage for all NuMI components.
- TSB Operational Issues
 - Ceiling height limitations.
 - First-in / last-out process (tracks dead end).
 - Crane capacity / hook height issues.
 - Old tracks, locomotives get stuck.



Main Storage Rail Line

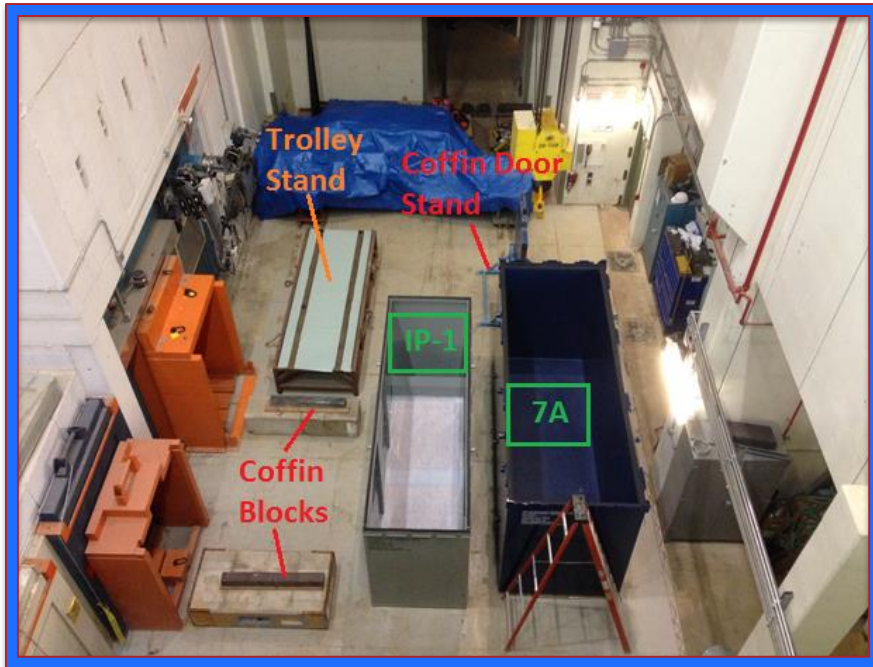


Transfer Stage



Burial at NNSS

Disposal – Major Components



Main Bay Staging at C0 RHF



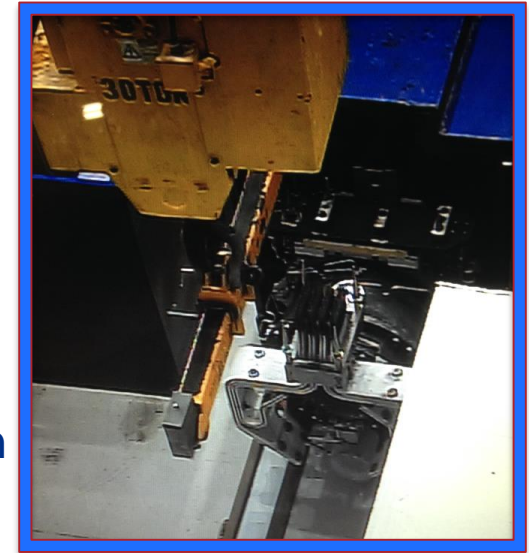
Placement of Fermilab Transfer Coffin

Disposal – Component Loading

- Component Staging
 - Fermilab transport coffin door opens & component is retracted on orange trolley.
- Insertion into IP-1 Burial Container
 - Lifting fixture change, followed by retrieval from trolley.
 - Component placed in to IP-1.

NuMI Target, NT-05 (10/17)

PH2-01 Retraction
From Coffin



Disposal – Loading of Transport Coffin



Fixture Attachment to 7A Lid



Lowering of 7A Lid for IP-1 Closure



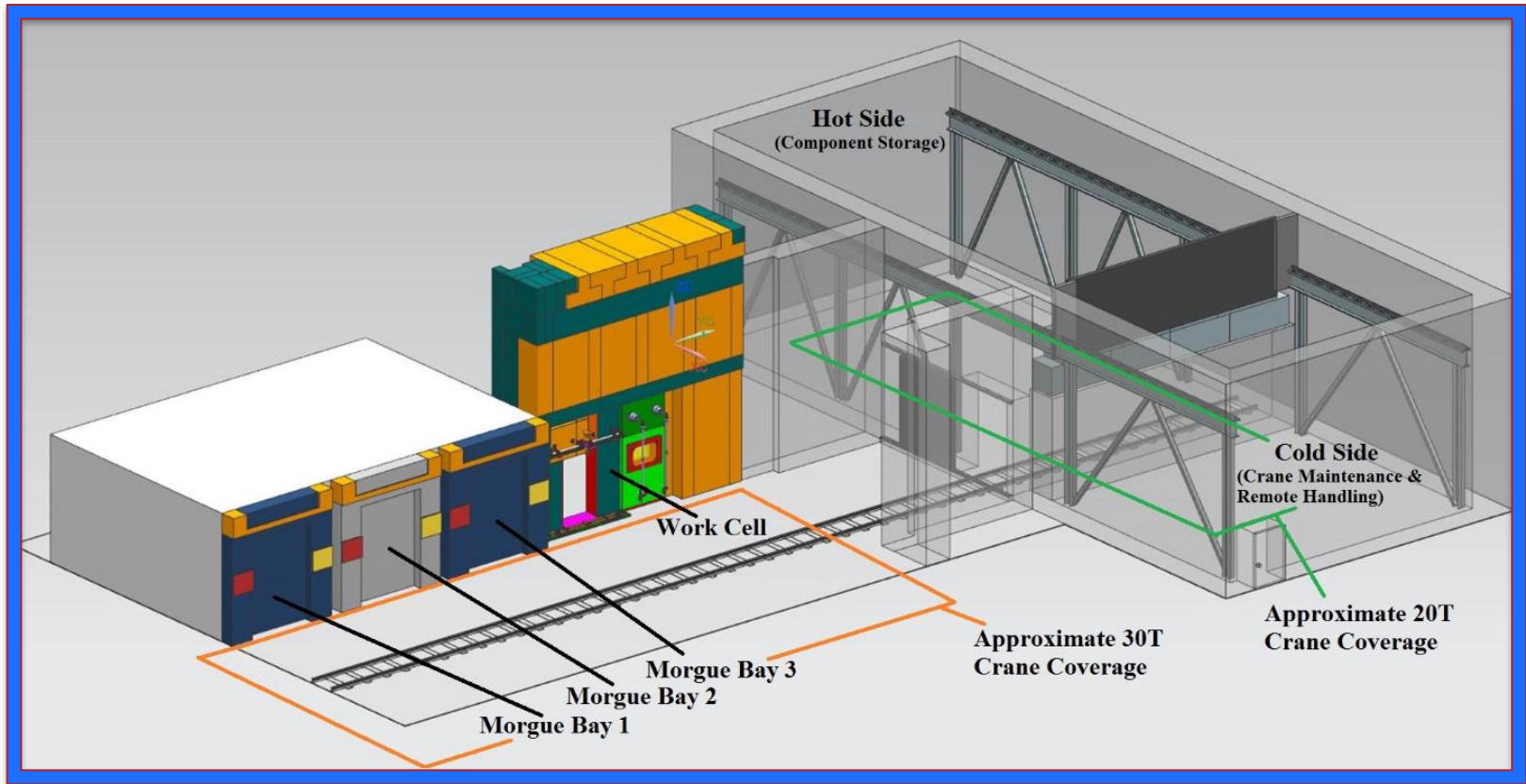
IP-1 Placement into 7A Coffin



7A Lid Movement to Enclose IP-1

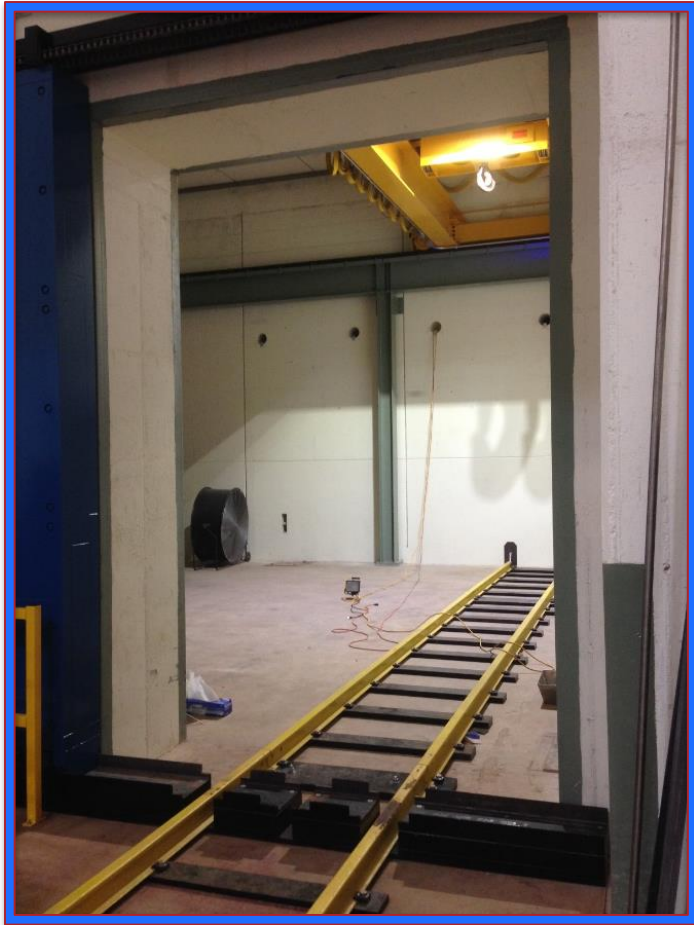
Storage – Long Term Solution

- Retrofit C0 Remote Handling Facility (RHF)
- Utilize Old Detector Hall & Empty out TSB



Conceptual Remote Handling Facility Expansion

Storage – RHF Build Status



Transfer Door Opening

- Transfer Door Construction
 - Construction 100% complete; door operational, transfer car electronics & controls to be finished in January.
 - Maximum permissible coffin / IP-1 size of 7.5' Wide X 8.5' Tall X 28' Long.
- Maximum Capability
 - Allows for stackable IP-1 burial containers.
 - Holds 24 IP-1's at full capacity.



Interior of Hot Bay

Storage – RHF Build Status



Hot Bay Door



Rail Car & Track
80% Complete



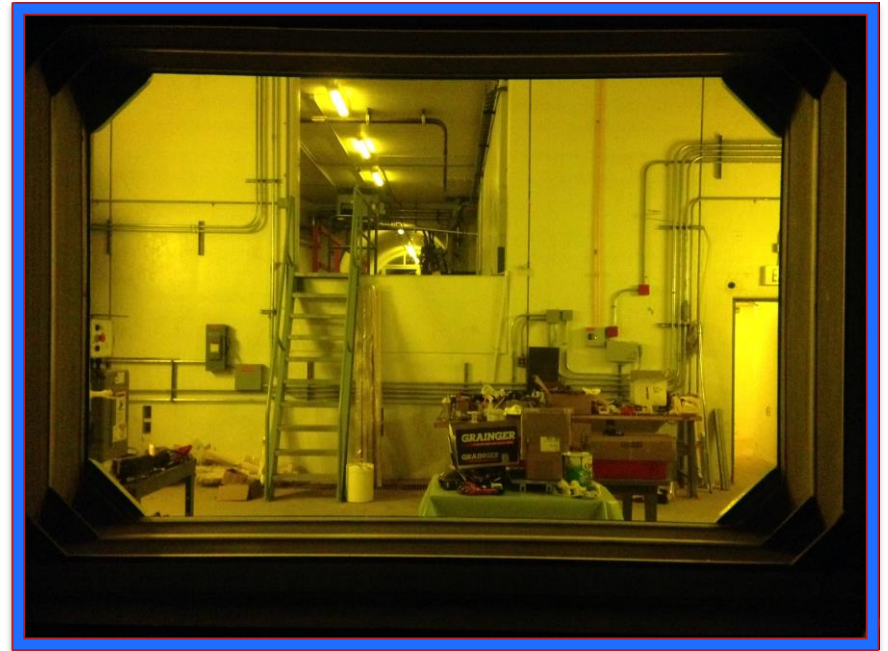
Rail Car De-Reeler

Storage – RHF Build Status

- Crane Shield Wall Construction
 - Construction 95% complete; full testing to occur mid-late January.
 - Provides fully shielded “cold-side” for crane maintenance & RH team.
 - 40 tons of steel (8” thick plate, 6’ vertical actuation, individually operated crane rail shutters with festoon feed-through.



Crane Shield Wall



Lead Glass View (From Hot Side)

Storage – RHF Build Status



Shield Wall Lifted Into Position

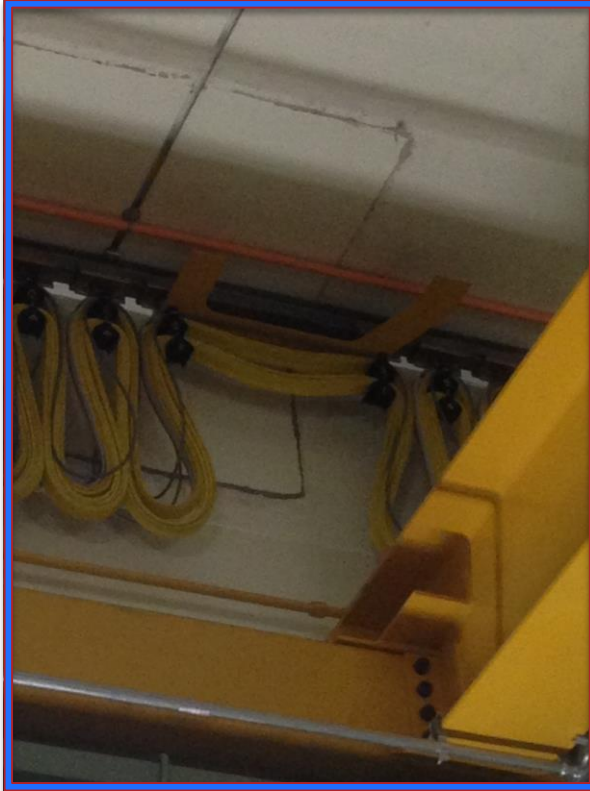
Storage – RHF Build Status



Left Side Shutter

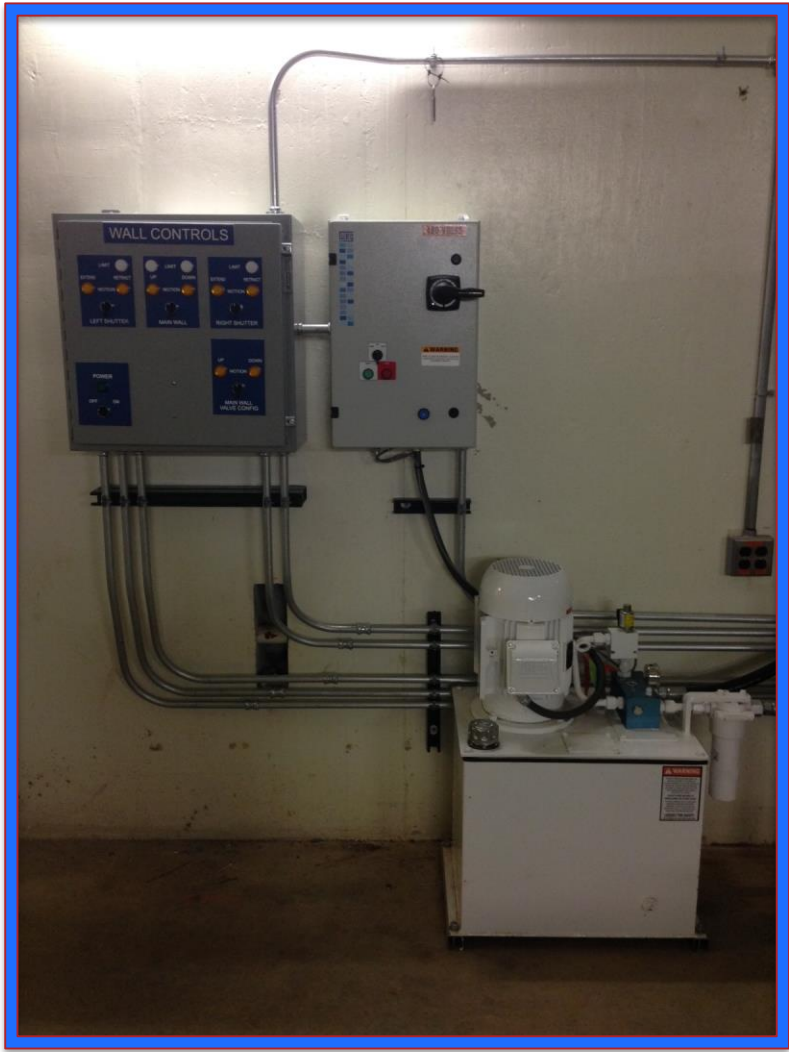


Right Side Shutter

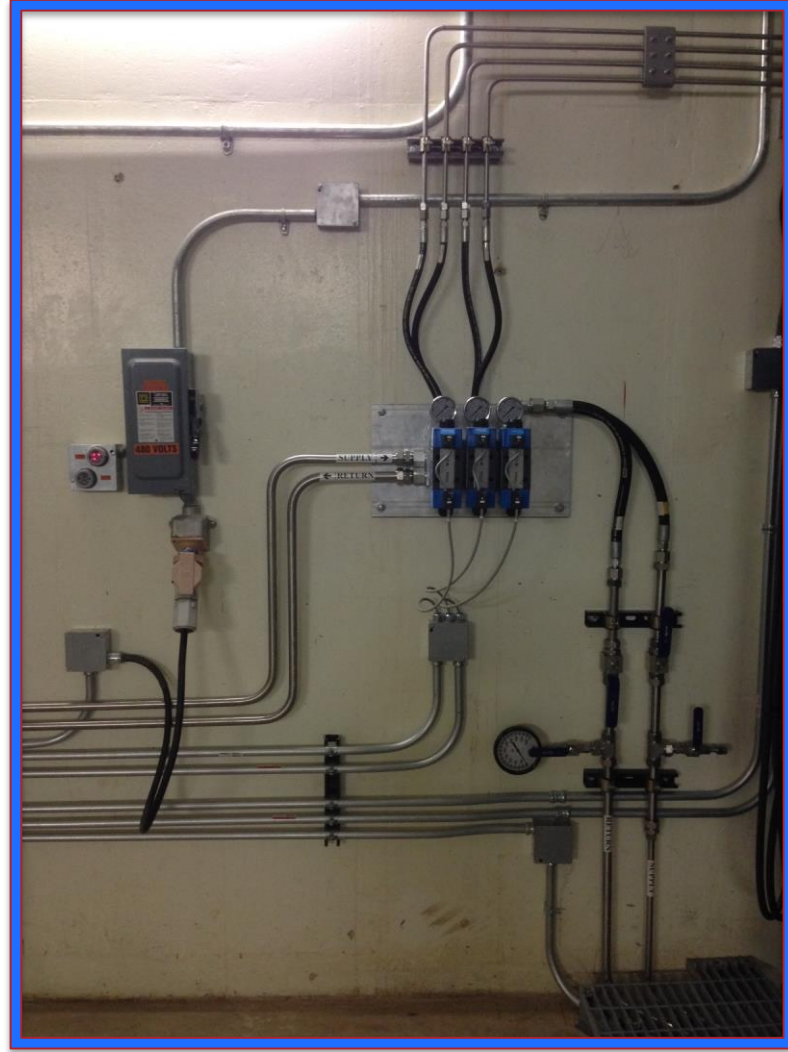


Festoon Stop

Storage – RHF Build Status



Controls & Hydraulic Unit



Manifold Station

Storage – RHF Build Status



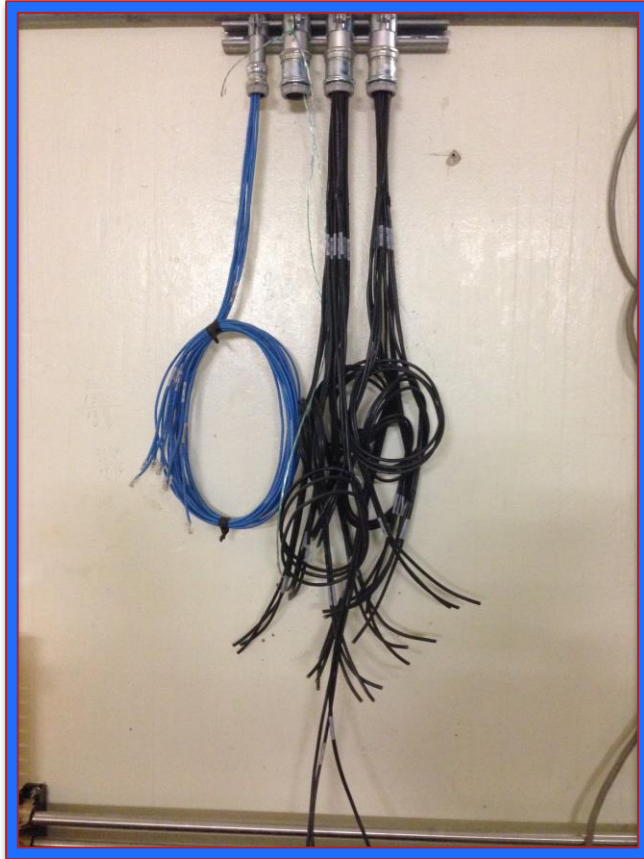
Redundant Crane Controls



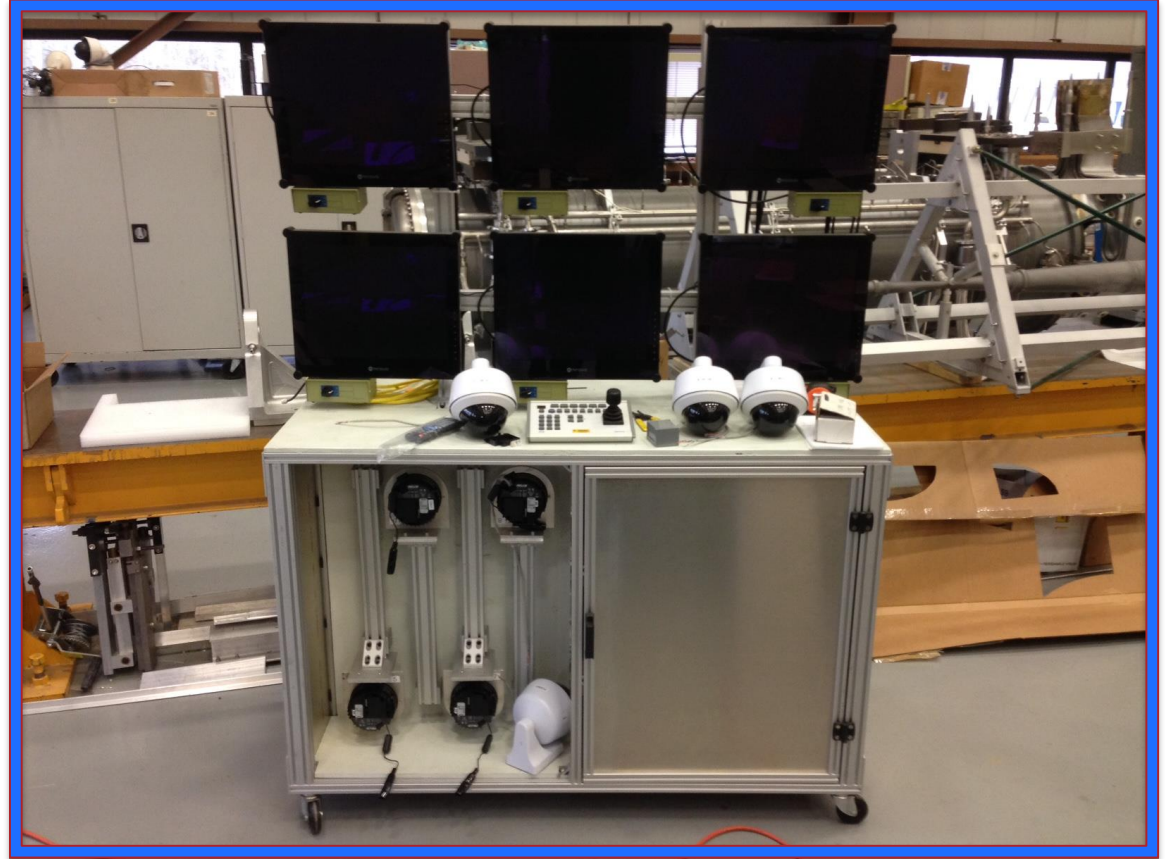
Tunnel Sealing & Dehumidifier
Recommissioning 100% Complete

Storage – RHF Build Status

- Camera / Lighting Controls System
 - Construction 80% complete; full testing to occur mid-late January.



Wiring Ready



Camera / Lighting Control Cart Ready

Conclusion

- Remaining Work
 - Crane Shield Wall (12/17 – Mid January)
 - Finish redundant locking pins install & safety railing around hydraulic lines.
 - Cameras & lighting / test crane festoon.
 - Documentation.
 - Long Term Storage Room Access (1/7 – End of January)
 - Finish mechanical & electrical install for rail car & portable pendant system.
 - Test rail car system & door interface.
- We will have TSD walkthrough ASAP when facility testing is complete.
- All input welcome prior to storing components!
- Lessons learned:
 - All trade labor is now essentially fixed price & takes 4-6 weeks to make it through procurement.
 - Need to plan accordingly for shutdown work. Do not rely on T&M.
- Additional storage boxes (IP-1's) are here. Need decisions on what gets disposed of at NNSS.