



Muons report

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Proton PMG / AEM

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<https://indico.fnal.gov/event/66360/>

Solenoids and cryo

- Recall: upstream Transport Solenoid (TSu) and downstream TS (TSd) are in the building
 - Scheme developed to allow insertion of anti-proton window and rotation of the charge-selection collimators...
 - Parts are being procured...



- Cryo infrastructure going in earnest
 - Connection of solenoids to cryo transfer lines is underway (next page)
 - Liquid nitrogen refurbishments ongoing
 - Full Flow Purifier expected soon
- Soon: Production Solenoid (PS) and then Detector Solenoid (DS)...
 - Plan to cool down solenoids this FY

Splices completed to upstream Transport Solenoid



- First solenoid with spliced superconductor end-to-end
- Making these connections means the position of these solenoids is fixed
 - Also sets the location of other solenoids as well as the production target

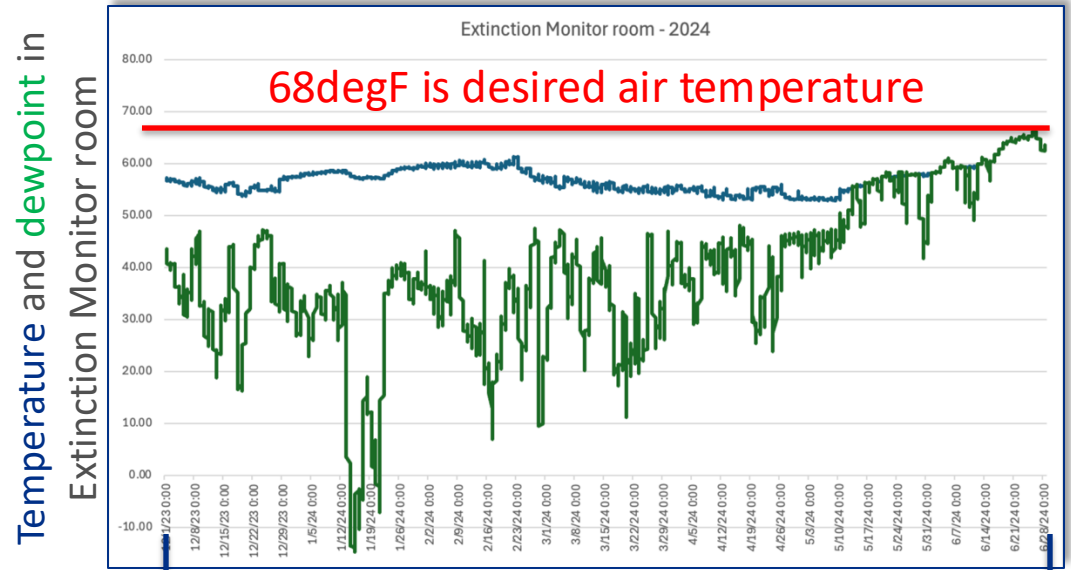


Emergency backup power issues

- During the regularly scheduled power outages this summer, experienced issues with backup power...
 - 17-July: at g-2, the Automatic Transfer Switch (ATS) failed to switch loads from main line power to backup diesel generator
 - This is the 3rd time this ATS has failed... a requisition is in process to replace this ATS
 - 26-Sep: at Mu2e, loads that were supposed to be powered by generator were found to be NOT powered (e.g., elevator, crane)
 - ... however, they were powered when line power returned, which means there is an issue either with the generator itself or the ATS
 - ISD is investigating this right now (during this meeting)

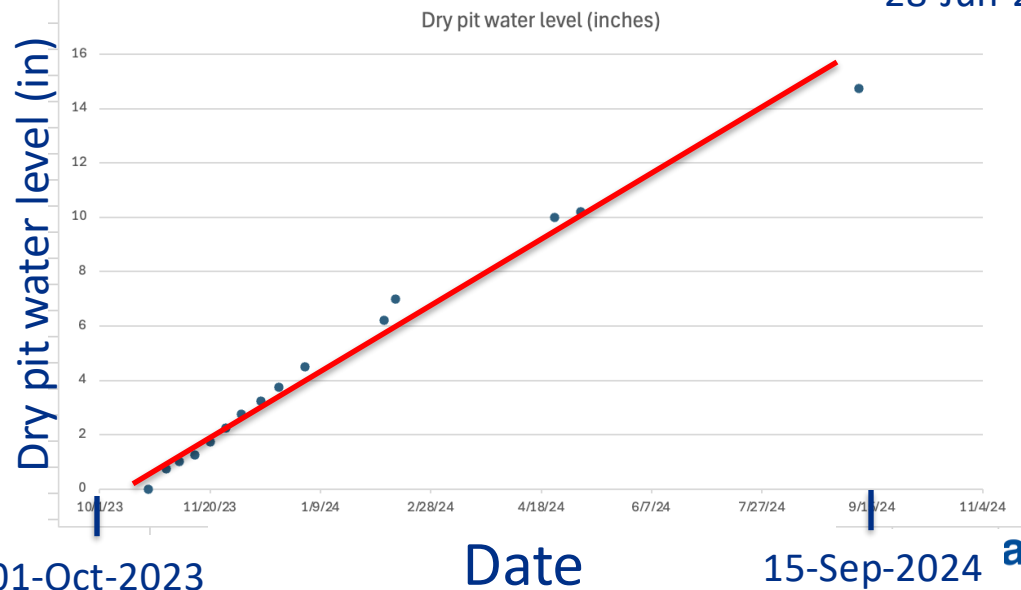
Issues with water, humidity, and temperature

- Water condenses during humid summer months...
 - Extinction Monitor room
 - ODH penetration near Production Solenoid (PS)
 - On wall in the catwalk above TSu and PS
- To address these issues...
 - Warm up building
 - Tune air handler baffles
- “Dry” pit: pit collects water at a steady rate all year
 - I.e., not only during the summer months
 - This is a more difficult problem to fix



01-Dec-2023

28-Jun-2024



01-Oct-2023

Date

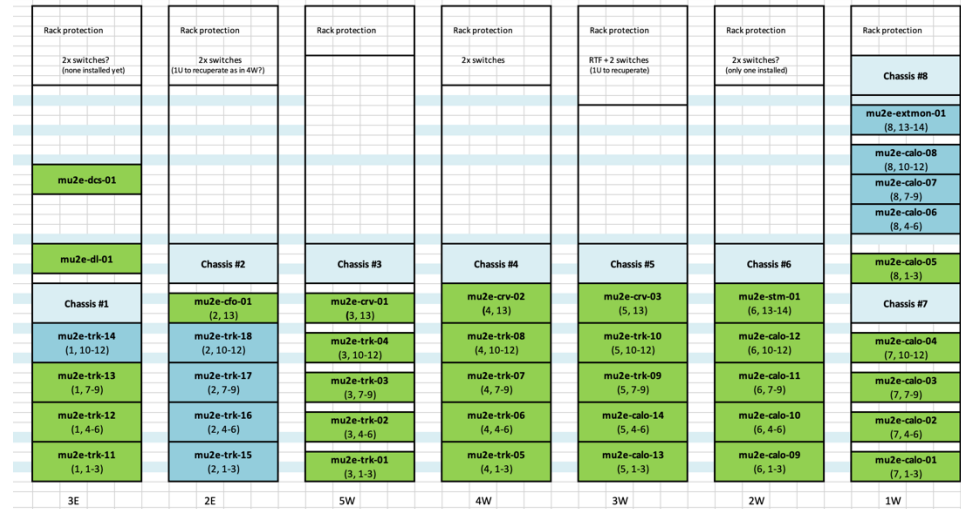
15-Sep-2024

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Mu2e subsystems

- In process of installing DAQ nodes

- 31 of ~40 are in place
- For some of the Mu2e online nodes, repurposing nodes from Muon g-2



- Expect Calorimeter to come to Mu2e in early 2025, followed by Tracker...
- Regarding bugs, animals, birds, ...
 - Oct 2023: Tracker leaks developed at lab 3 from Boxelder bugs
 - Have implemented mitigations at lab 3, currently monitoring to evaluate effectiveness
 - Need to figure out how to mitigate pests at Mu2e...

Muon experiments - collaboration activities

- Muon g-2 results
 - Analysis of Run 4-6 ongoing... expecting to release results in early 2025
 - Coordinating with theory initiative on release times so that theory can make their best predictions prior to the release of the data
 - Analysis of Muon Electric Dipole Moment and CPT + Lorentz Violation also ongoing
- 22-26 July: Muon g-2 physics week in Ann Arbor
- 23-27 Sept: Mu2e collaboration meeting
- 21-25 Oct: Mu2e Global Run #3

Backup

Calendar since May Proton PMG/AEM

