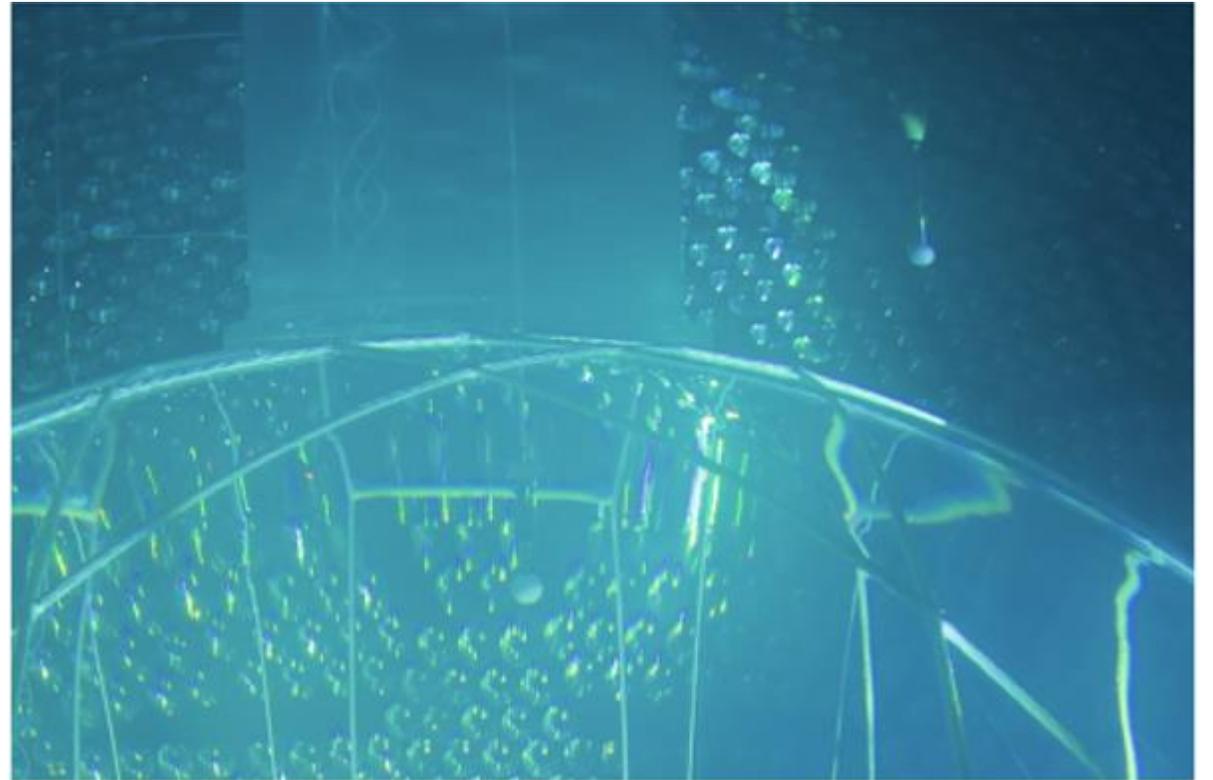
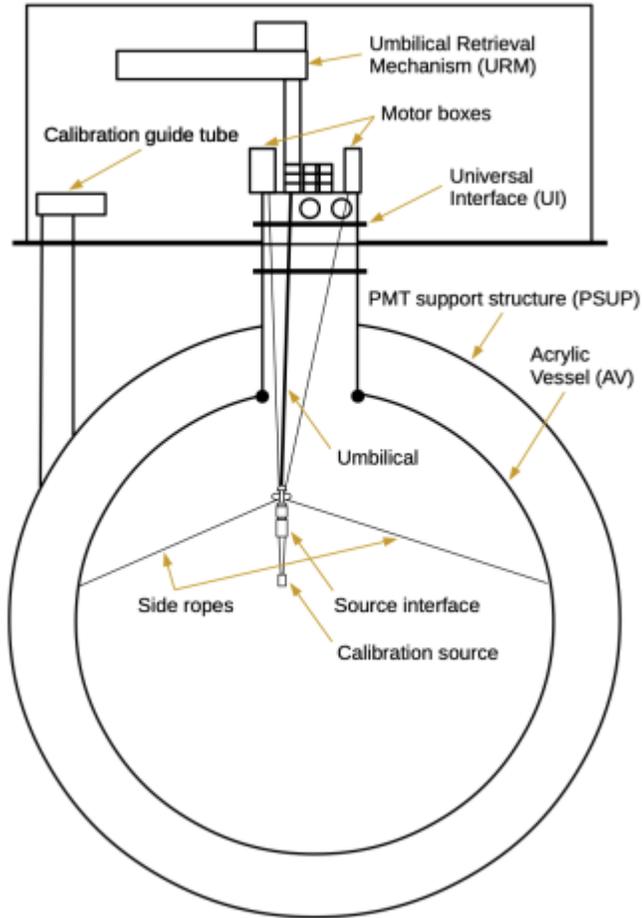


SNO+ update for SEF

Christine Kraus
February 11, 2026



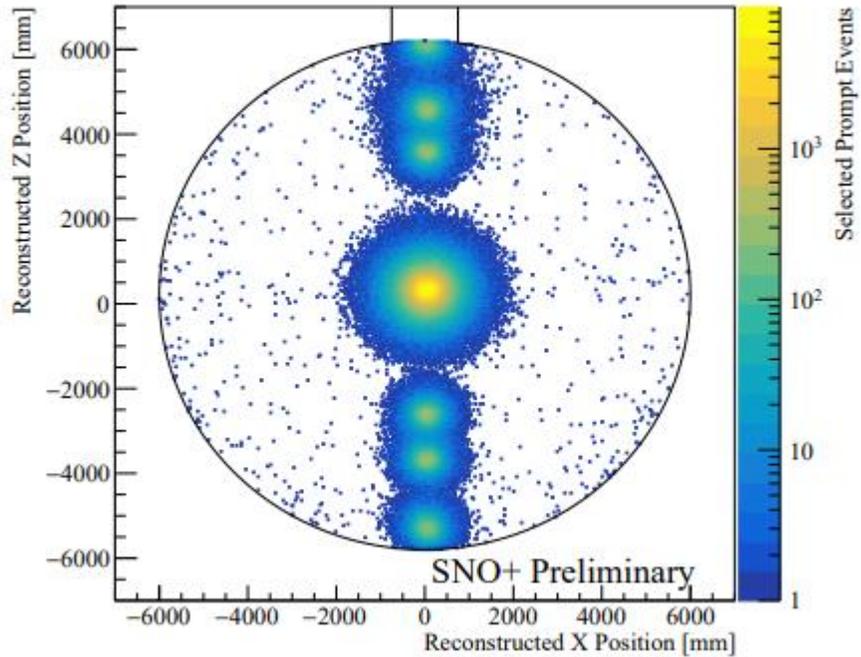
Internal Calibrations – July to November 2025



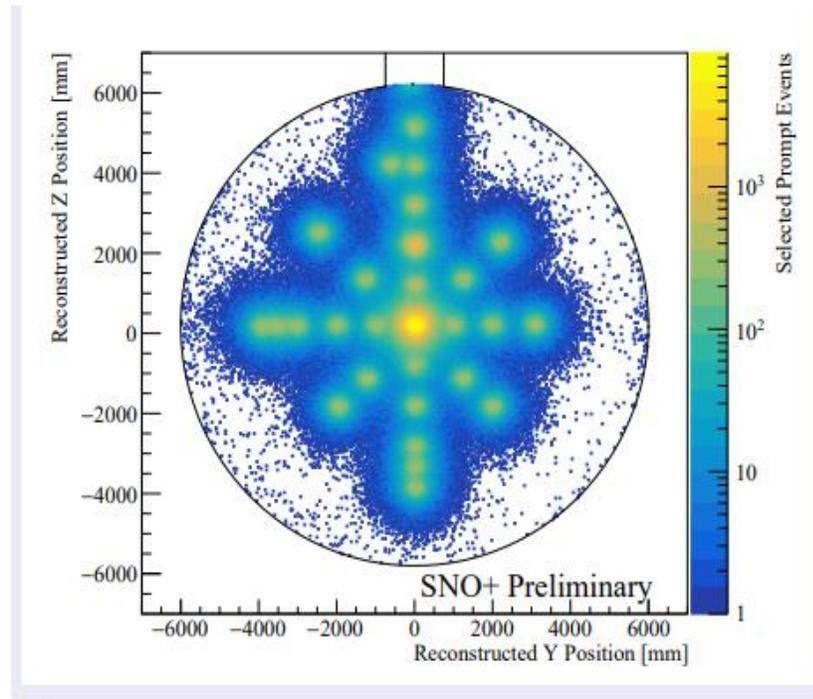
- Key components:
 - ▶ Umbilical retrieval mechanism
 - ▶ Source Bellows
 - ▶ Lifting system
 - ▶ Umbilical
 - ▶ Source Connector
 - ▶ Source (AmBe/Laserball)
 - ▶ Sideropes
 - ▶ Motor boxes
 - ▶ Guide tubes



AmBe source

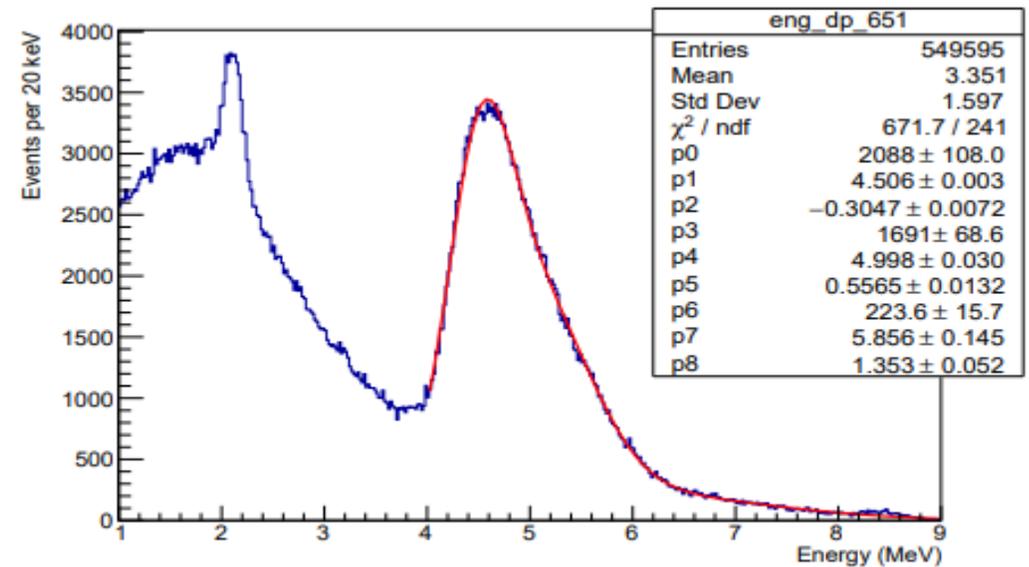


Central axis run



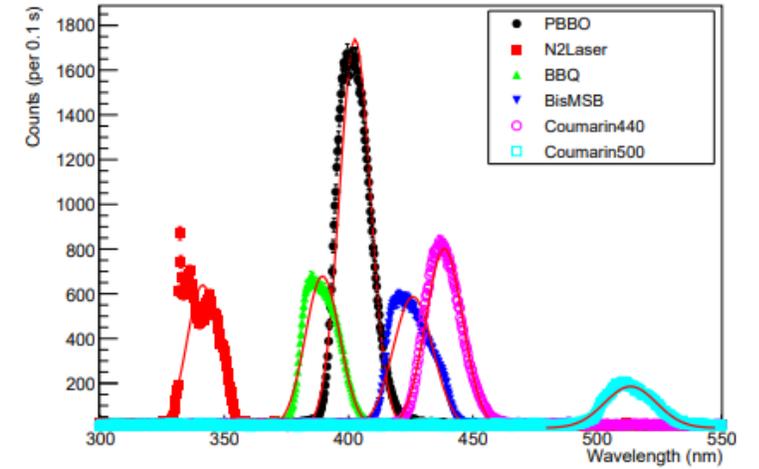
Sideropes working

Energy Spectrum

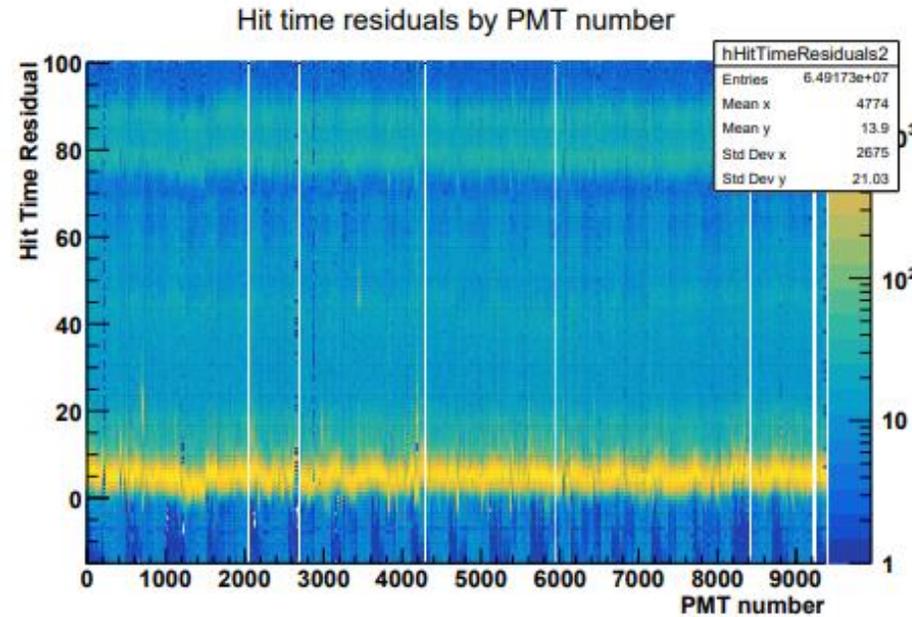
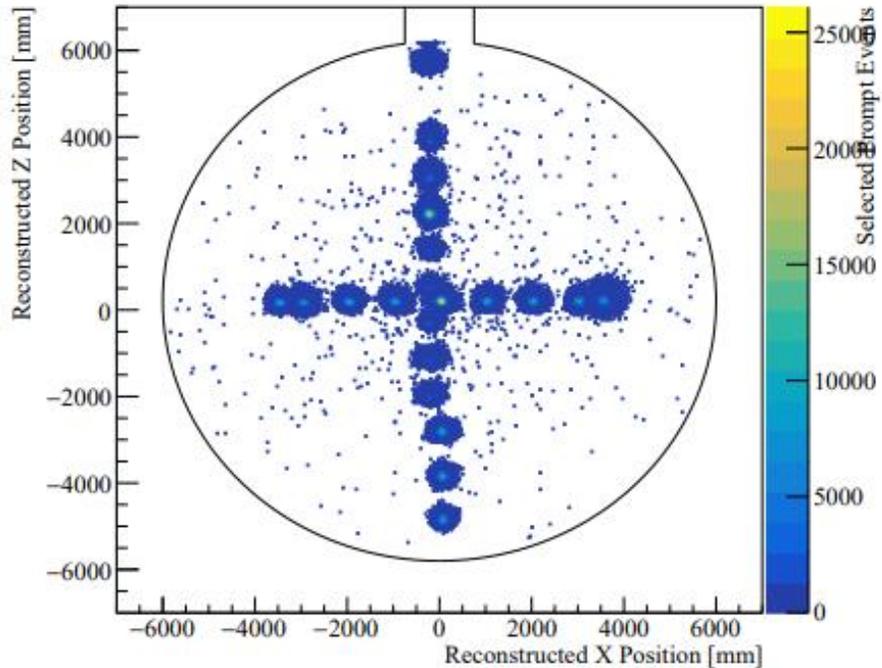


Laserball

Analysis work ongoing on all calibration data taken.

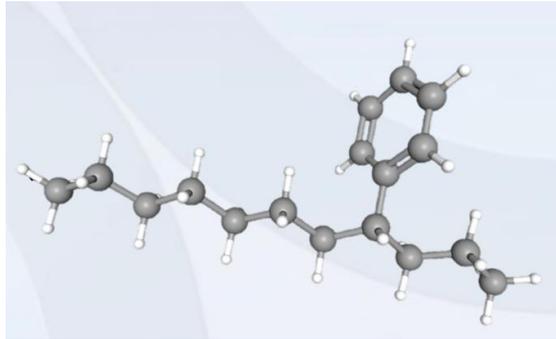


Dye Laser spectra

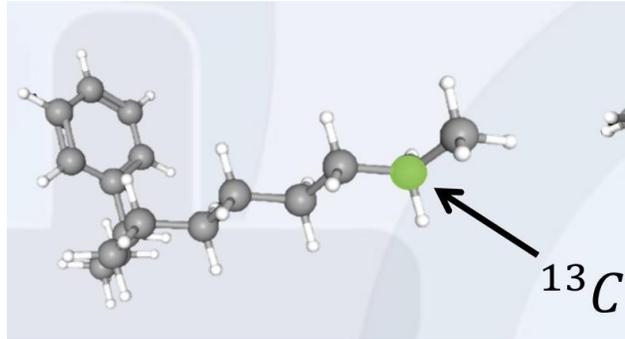


Internal Scan

Solar neutrino capture on ^{13}C

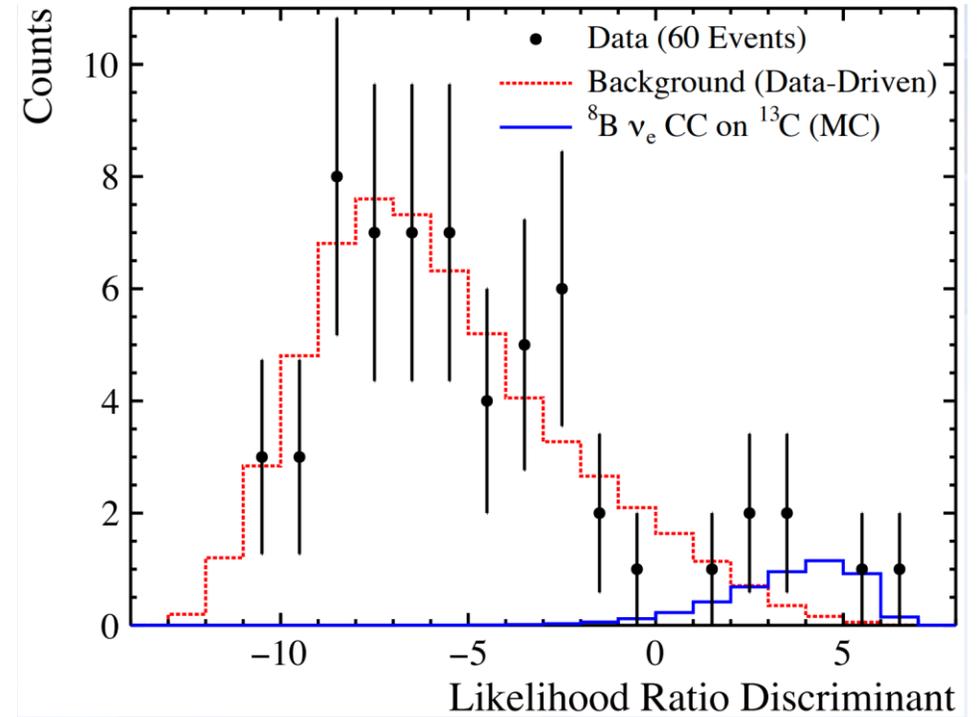
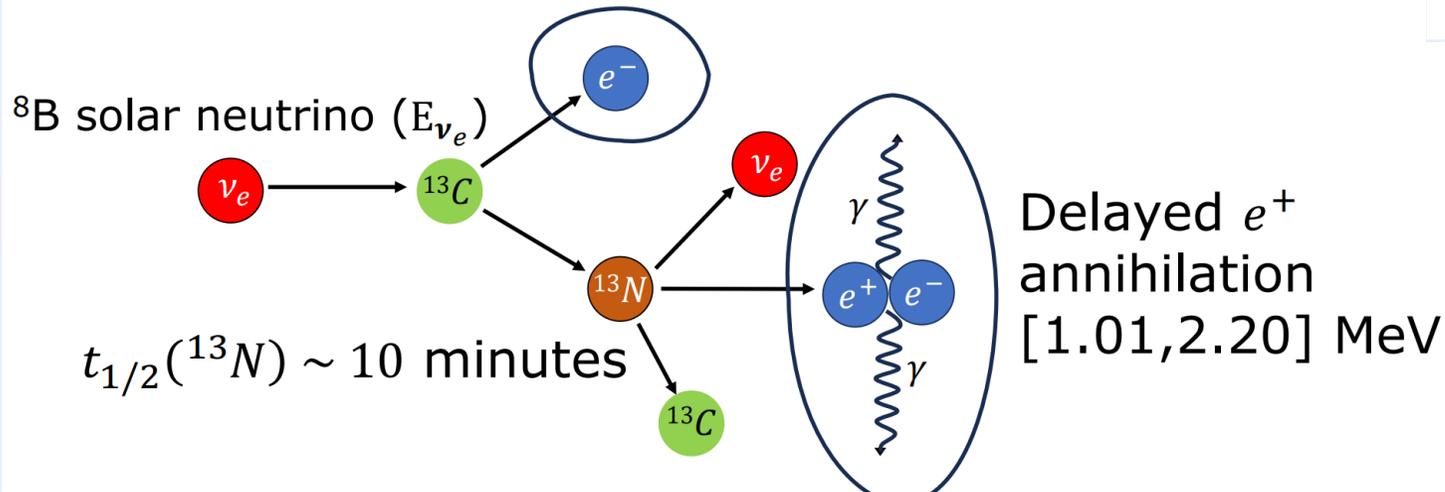


Long carbon chains



1.1% ^{13}C \rightarrow 8 tonnes in SNO+

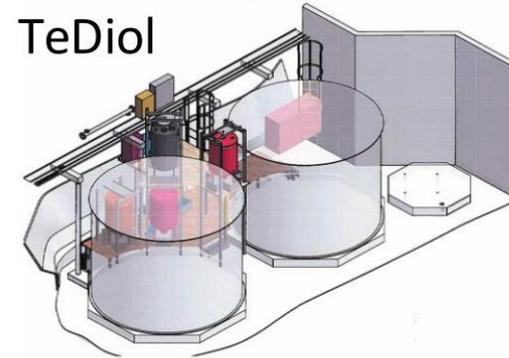
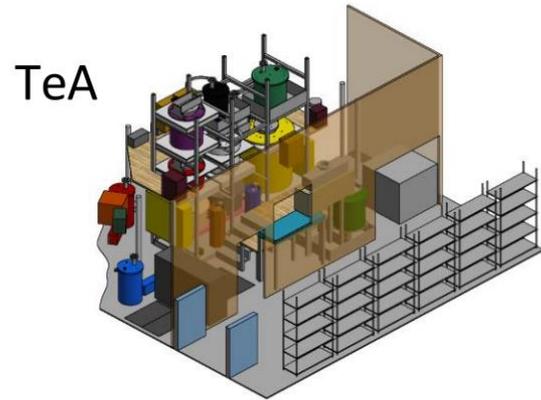
Prompt e^- ($E_{\nu_e} - 2.2$ MeV)



4.2 sigma with 230 days
Got lots of media attention
First time measurement

Also published on geoneutrinos, antineutrinos (total of 5 papers in 2025), 4 more in preparation.

Tellurium Systems



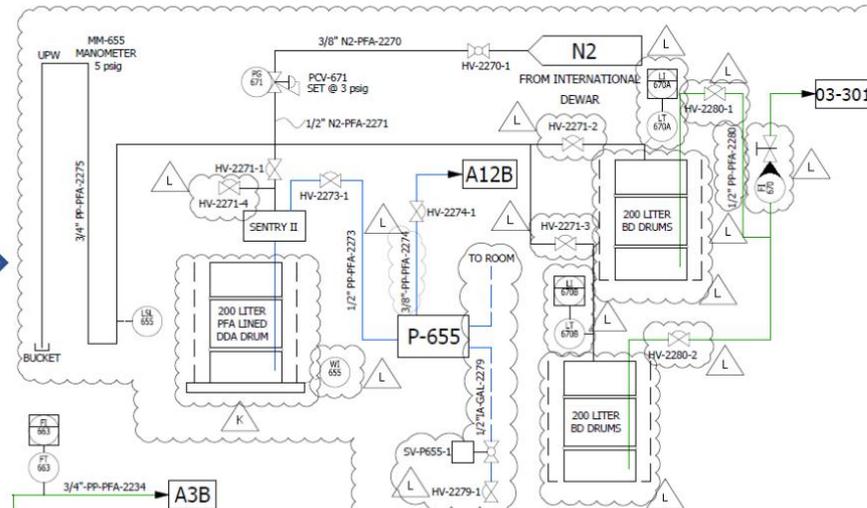
AV



DDA Distillation

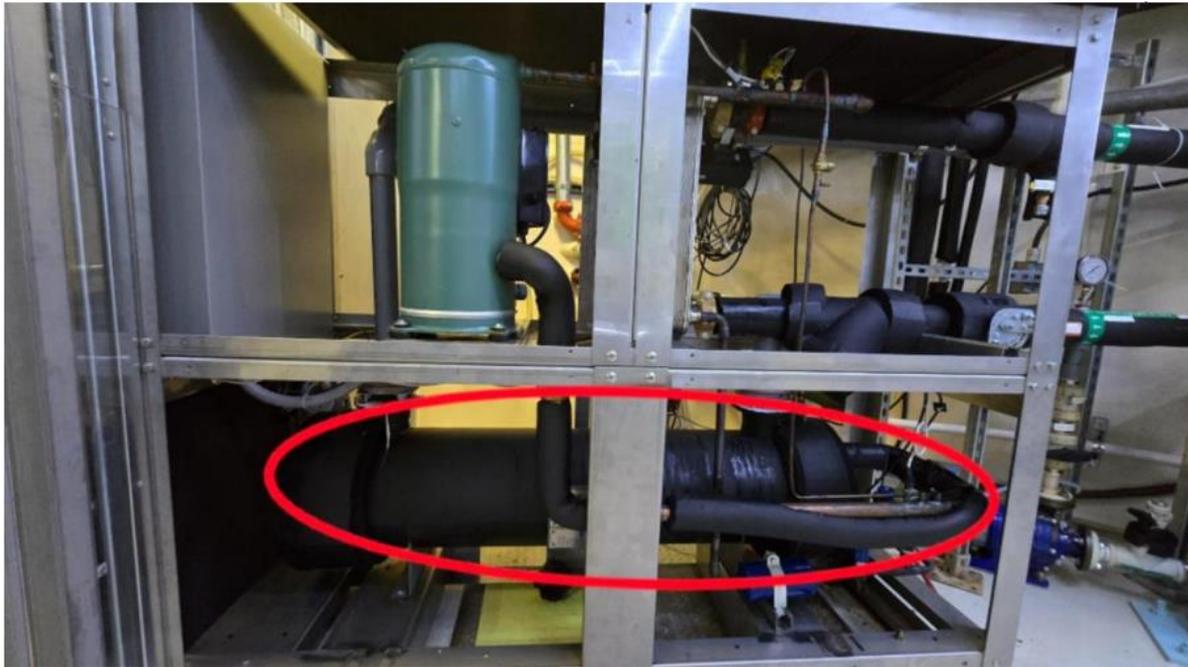


DDA & BD UG Transfer



Progress and issues

- Chiller broke last summer – hopefully back this month ... needed to complete test batches



Used time to advance other tasks:

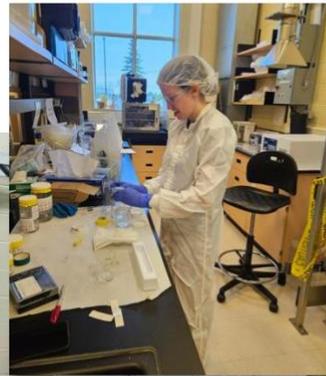
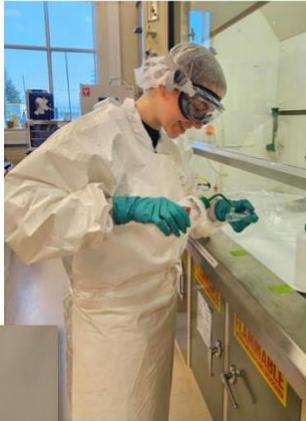
Established remote operations
Cleaning utility lines, replacing leaky
components

Commissioning Diol Plant
Switching from potassium acetate to glycol



DDA Still "Operations Run"

- New team of trained operators, QA and spill responders (Thank you!)



Scintillator Plant



July 2024

March 2025

✓ HX installed and insulated

New heat exchanger installed

Scintillator plant re-commissioned

Cuts down start[up] time significantly

Running well – QA looks good

Now getting ready for draining

AV crack

Leak location in Z can be estimated to 480 +/-20 cm above the equator.

About 55T of scintillator need to be removed from AV

About 3kT of UPW need to be removed (~17 days at 120 LPM

Access to below deck must be established

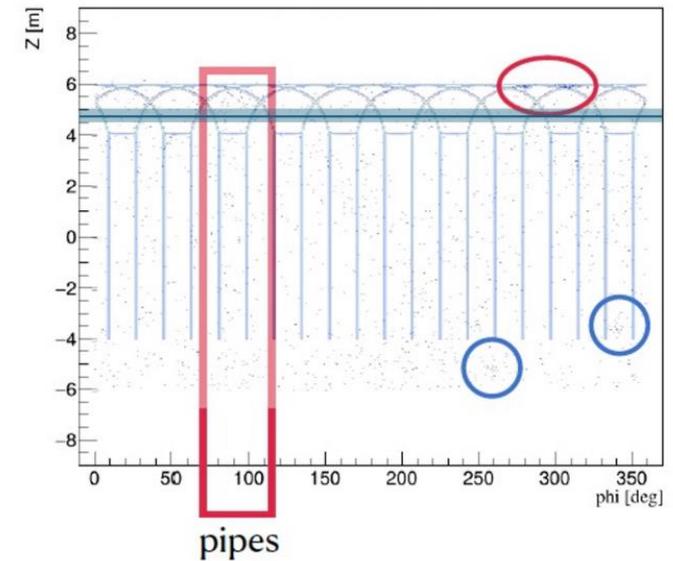
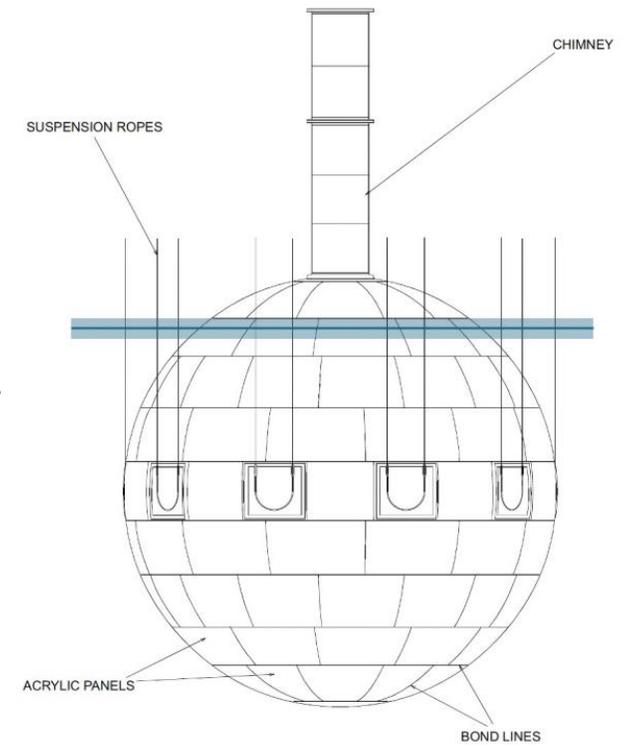
Prepare team – training, etc.

Access to inside the PSUP is needed

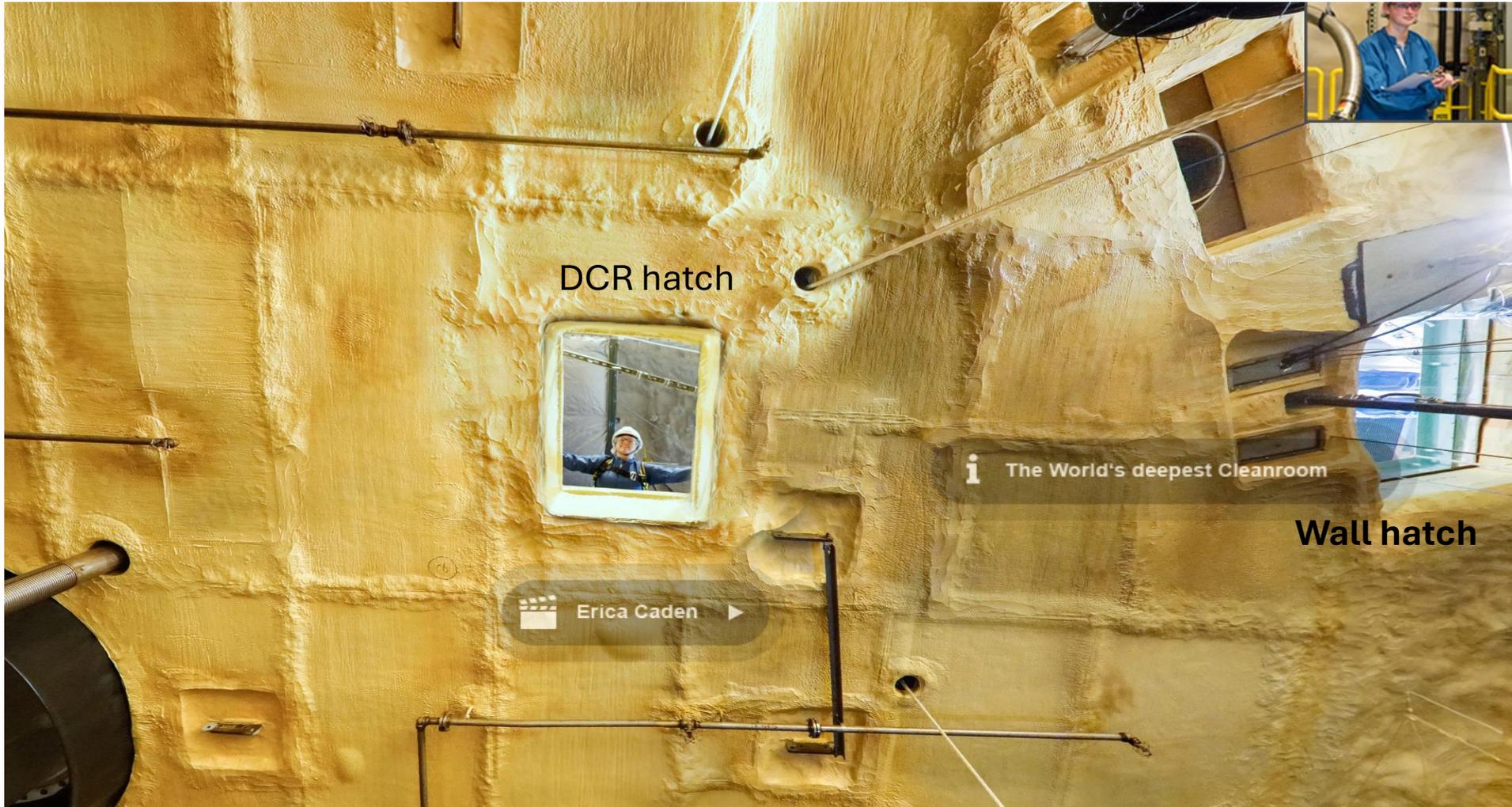
Leak must be found, then repair plans can be fully developed.

This will take up a good fraction of 2026.

Plan to start this month.



Looking up to two open hatches



Wall hatch is
Easiest access

DCR hatch is also
Fine – a little less
Convenient

At time both will be
Used.

Pictures from previous work (construction)



Yesterday – dry run

