

**Ash River Installation Coordination  
Monthly Report-December 2021  
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TPC drift for ProtoDUNEII & Inverted APA @ Ash River

## DUNE Workshop prep

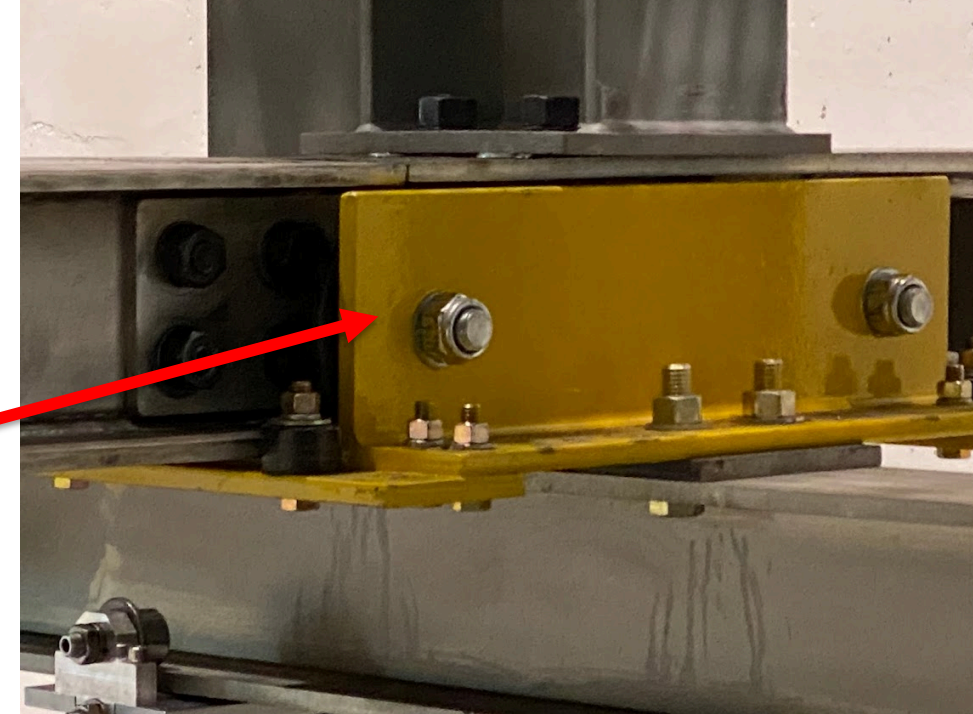
- pDUNE workshop concluded 11/18
  - Short Thanksgiving week
  - 2 weeks to prep/transition pDUNE → DUNE
- Outstanding shout out to Ash River crew making this possible!
  - Less Tom @ CERN for CR board retrofit
- Prerequisites to Dec 13 DUNE workshop
  - CPA center nuts were fabricated to old spec, outside shop modified to latest design specs
  - Load test the CPA trolley
    - Determining the load rating wasn't easy
  - Mark row 25 locations and drill holes for APA/CPA (Thanks Justin)
  - Figure out where the 'high' of the cold membrane is on the floor and mark out

## [DUNE Workshop December 13-16, 2021 Goals](#) ← [Google photo album link](#)

- Test the APA doublet installation with CERN trolleys and cable trays trolleys
  - Cable tray trolley interference issue unique to Ash River, need to figure out
- Test the installation of the CPA with the new trolleys
  - Latest picking method still valid and works
- Test CPA and APA Hanger supports and removal of trolleys
  - Could not try, shifted TPC
- Verify that trolleys do not hit cryostat wall east side
  - No interference expected
- Test the removal of the runway beams
  - Possible, additional tooling may be required
- Test the installation of the end wall and lifting tooling
  - Communication between aerial and ground crew needs attention
- Test the endwall pushing system
  - Works, modifications needed
- Verify that the scissor lift can be removed from the cryostat after deployment.
  - Requires disassembly
- Test deployment of the field cages
  - Revisions to existing tooling required

## Workshop follow-up

- East DSS stubs ~7cm too long
  - Verify against model and ensure trolley clearance
- Shuttle beam trolleys require modifications to allow access to install bolts
  - Engineering checking requested clearance hole
- Modify cable tray base plates that are too wide
- 12m APA needs mechanism for techs to hold during translation on the shuttle beam



Next three slides taken from [Workshop Lessons Learned Document](#)

## Workshop follow-up

- Figure out a way to transfer APA doublet with cable tray off assembly tower
- Runway beam removal is tight, method of pushing out or adding gap tolerance needed
  - Possible to translate the beam using EW style pushing mechanism?
- Design/fabricate tool to hold bottom FC upright
- Design/fabricate tool to hold CPA when deploying one FC
- Bottom FC deployment tool needs to lose weight and installation help aid for scissor lift



## Workshop follow-up

- Investigate bottom FC non-metal hook & cable
- Check/measure EW swing with test weights for HV consortia
- Drill holes in CPA for EW bracket
- Revise EW pusher
- Repeat EW hoist installation with runways removed
  - Check for tool installation interferences @ Ash River and model

