DUNE Status

Sowjanya Gollapinni, Sergio Bertolucci

Joint LBNC & NSG Meeting

Virtual

June 3-4, 2025

Far Site Facility Status (a recap)

- **At the end of 2023** it became apparent that delays in the Excavation and in the BSI projects were shifting the AUP date of the South Cavern from **October 24** to **March 31** and then to **June 31, 2025.**
- In **February 2024** we absorbed the delay by **swapping the installation of VD and HD.**
- Present date for AUP is **January 2026**
- We are now striving to minimize the impact of this delay on the start of physics with VD.
- **It is our highest priority to avoid any further slippage on the AUP.**

BSI Construction Status

4850-14 Anchor Pull Testing

CUC Utility Building Steel Erection

Plumbing, Fire Suppression and Smoke Detection

SDPB

SUPPORT SDP

Walt Walt..... Don't Tell Me

NEXT UP: 11:00 A

WATCH/LISTEN · NEWS · HS SPORTS AND ARTS · EDUCATION · LOCAL SHOWS · MEMBERSHIP · EVENT

Science

SURF to lower beams for DUNE cryostats starting next year

SDPB | By Lee Strubinger
Published May 12, 2025 at 10:36 PM CDT

Lee Strubinger / SDPB

Beams for the LBNF DUNE experiment in Rapid City.

Crews with the Sanford Underground Research Facility in Lead say they'll undergo the careful process of lowering about 380 steel beams a mile underground soon.

Each beam weighs about 12,800 pounds.

Those beams will support the cryostats that will hold 17,000 tons of liquid argon to measure the oscillations of neutrinos from Chicago.

U.S. Funding Situation

- Funding situation in U.S. is still in flow with a lot of uncertainty on various fronts
- DUNE mid/long term planning is extremely challenging in the absence of firm indications on resources
- Recent cap on Facilities and Administration (F&A) “indirect costs” at universities and the forecasted reduction in universities Research funding is
- DUNE US Forum meeting held in April to discuss situation and action items

Hill visits by HEP communities:
~80 scientists visited over 370 congressional offices

LBNF/DUNE CY25 Review Schedule – Budget / Schedule Impacts

Review Milestone	DOE IPR	Directors Review	ESAAB	Notes
FDC Cryogenics Review	n/a	February 12-13, 2025	n/a	Complete
Near Detector Status Review	[1]April 1- 3, 2025		n/a	Complete
FDC CD-2/3	Week of December 8, 2025	May 13 – 16, 2025	Feb 2026	In-person at Fermi
FDC CD-2/3 ICE Refresh	TBD			
BSI Status Review	July 8-10, 2025			In-person at SURF
NSCF CD-2/3	TBD	TBD		
NSCF CD-2/3 ICE Refresh	TBD			
Beamline CD-2/3	TBD	TBD	-	-
Beamline CD-2/3 ICE	TBD			

"Joint" Directors Review

LBNF/DUNE Construction Timeline and Milestones

	Thru FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
DOE CD-1RR ESAAB BA	**1,080**	**180**	**255**	**305**	**305**	**305**	**305**	**290**	**252**	**0**	**0**	**0**
CD-1RR BA WITH FY25 = $251M	1,080	180	251	251	305	305	305	305	295	0	0	0

Currently reviewing plans for funding at $250M / year for FY26 and beyond. Forces prioritization → FDC First.

M1: Start of far site cryostat construction

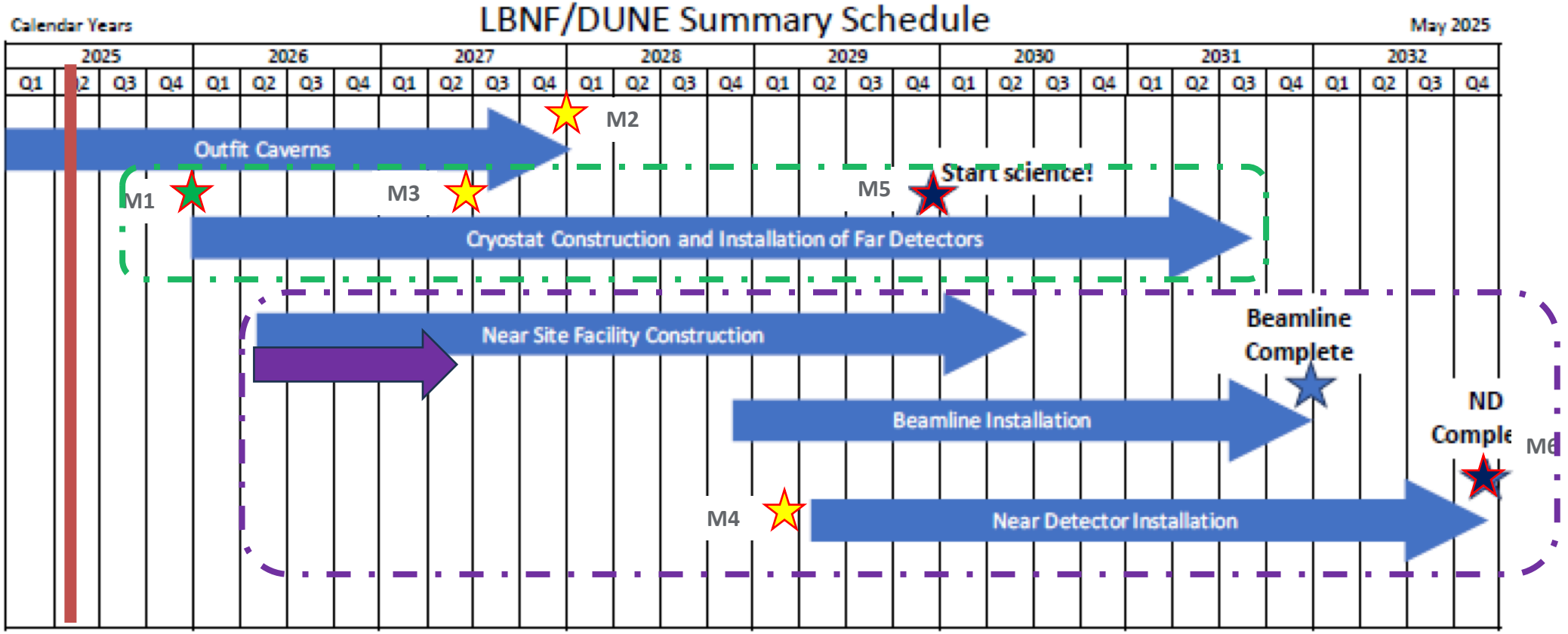
M2: Far site conventional facility transition to operations complete

M3: Start of far detector construction

M4: Start of near detector installation

M5: First far detector transition to operations complete

M6: Near detector transition to operations complete



Spring RRB Meeting

- Spring DUNE RRB meeting held on May 6 & 7 (fully virtual)
- Included updates from all relevant parties: lab, collaboration, project, resource coordinator, DUNE coordination office, LBNC and NSG committees, and CERN neutrino platform
- Round table updates from all funding agencies on status, plans and challenges.
- **Concerns expressed by the international Funding Agencies on delays in schedule and the U.S. funding scenario**
  - an interim update requested before the fall RRB meeting
- We showed the scale of effort needed for I&I at SURF

Preparing for the FD Installation and Integration

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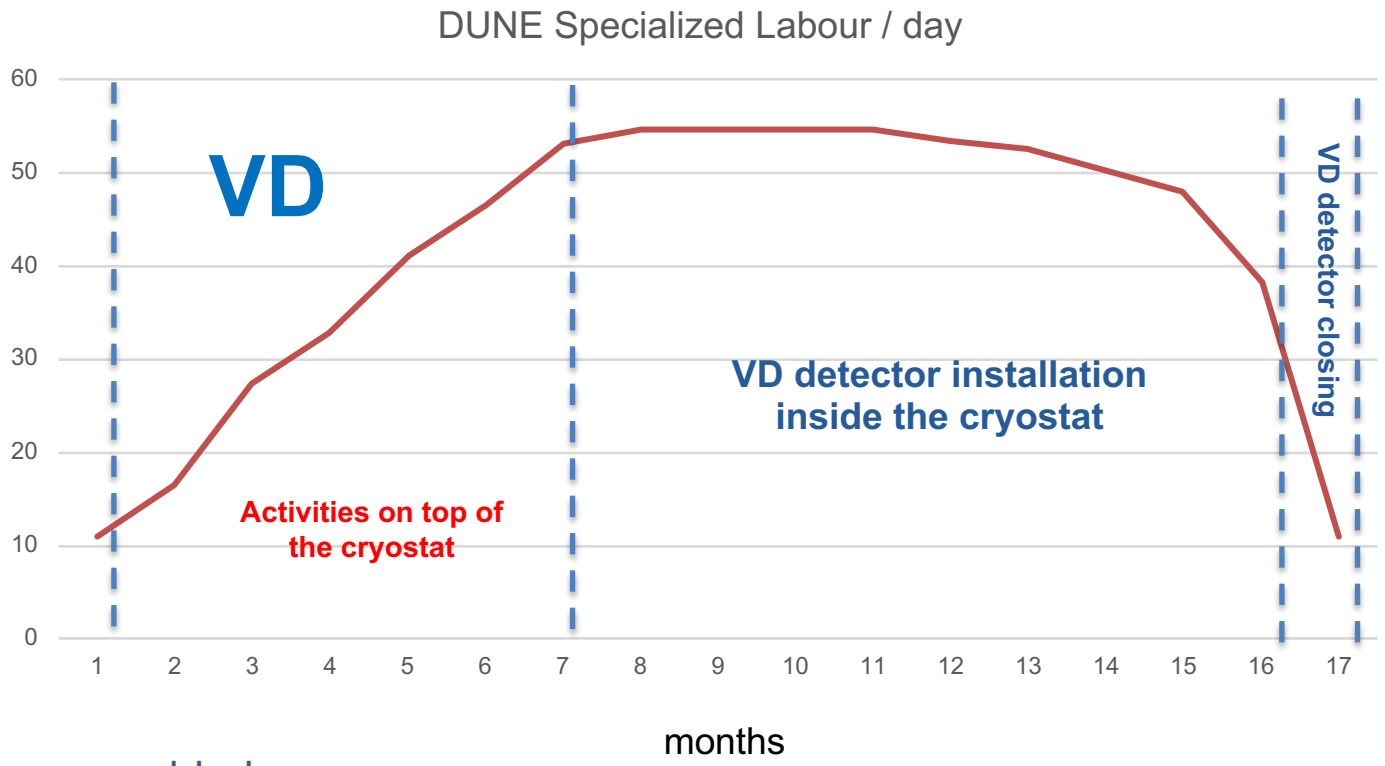
- A large number of specialized personnel will be needed for the installation and integration of the Far Detectors
- The signatories of the MoU annexes have in principle committed to this deliverable, but there is not a quantitative assessment of it.
- Consortia, together with the I&I management have produced detailed figures, checked with their funding agencies, which will need a final verification before they become an Annex to the current MoU or a separate Mou to be submitted to the RRB
- We expect to have a proposal by the Fall RRB meeting.
- It is also a good occasion for the Institutes less involved in hardware contribution to pledge resources for this tasks.

Foreseen needed/pledged workforce (VD)

DUNE Specialized Labour

- *Scientists*
- *Engineers*
- *Technicians*
- *Grad. Students*
- *PHDs*

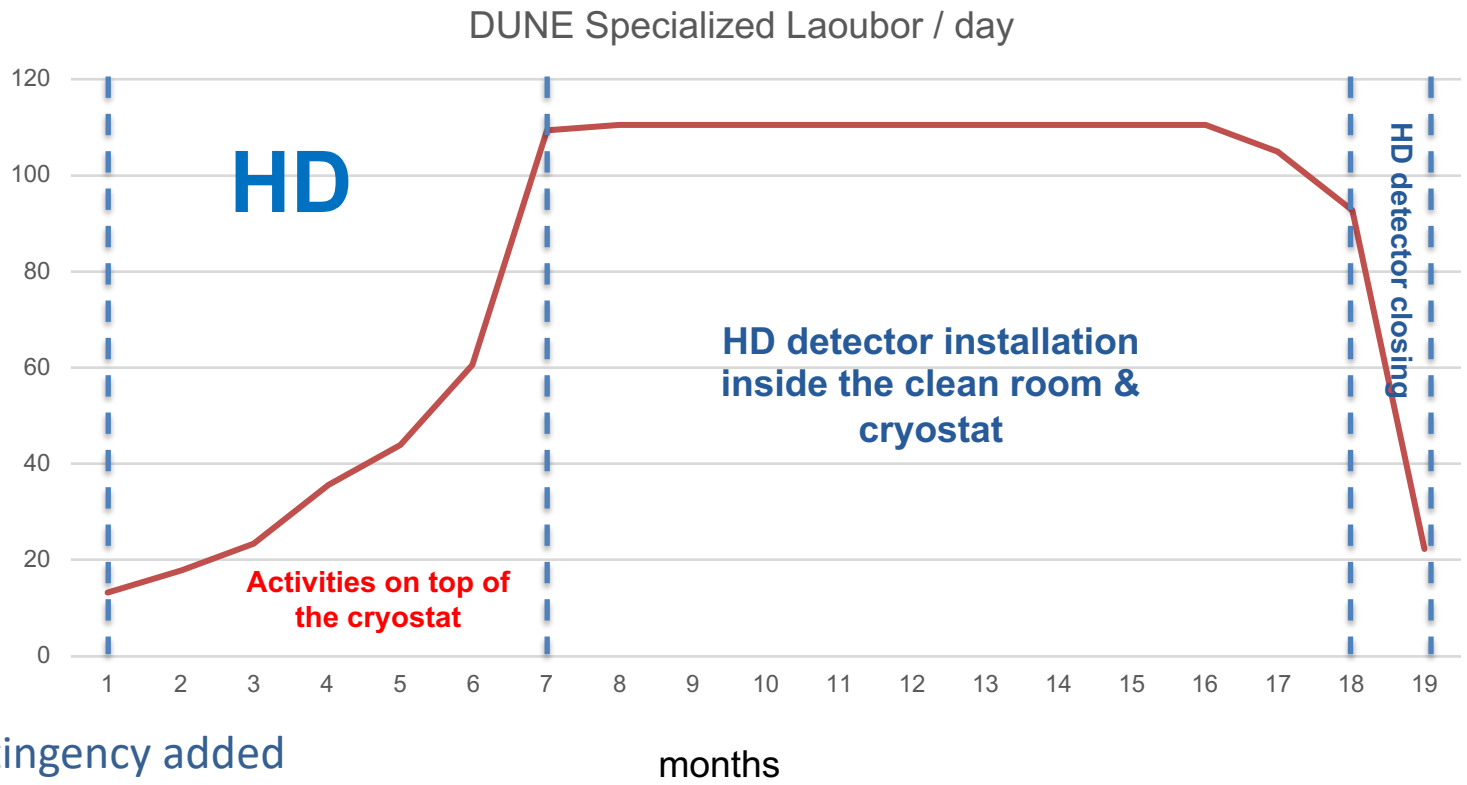


Based on 2 shifts/day, 30% contingency added

Foreseen needed/pledged workforce (HD)

DUNE Specialized Labour

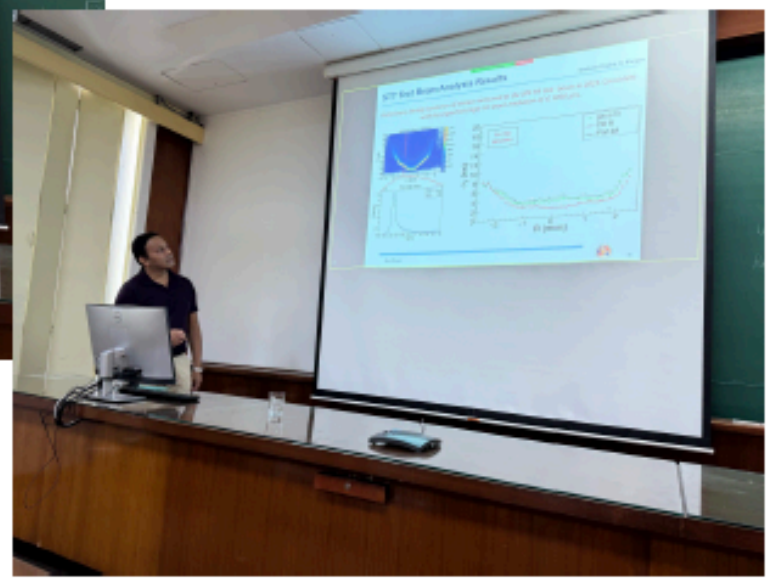
- *Scientists*
- *Engineers*
- *Technicians*
- *Grad. Students*
- *PHDs*



Based on 2 shifts/day, 30% contingency added

Visit to India

Workshop was very productive → Several potential areas of contributions identified including Near Detector, Calibrations, Phase-II and so on (in addition to ongoing contributions to physics/theory/simulations). A GRID computing facility also discussed as a potential area



THANK YOU