

# NOvA Far Detector Construction Status

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## 2011

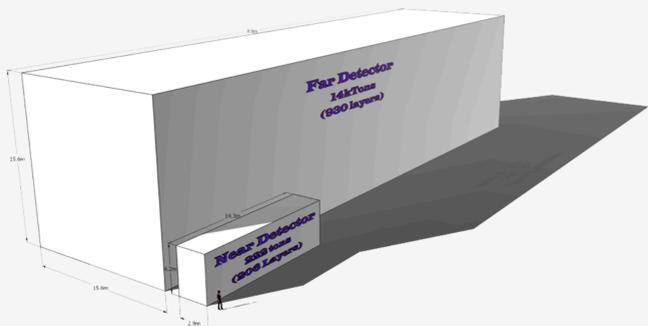
### November, 2011: Full height engineering prototype

- 32 50 ft X 50 ft layers of extruded PVC "cells" are glued together in alternating X/Y orientations to form a "block".
- Each block is assembled on a large pivoting table which drives the length of the detector hall.
- A 1/6 width prototype (below) was demonstrated in the CDF building at Fermilab



**March: Accelerator shutdown for NUMI upgrade to 700 kW. 1st far detector block installed.**

**August: Excavation of 110m underground near detector cavern begins.**



### Early 2014: Far Detector Complete

- 29 blocks filled with 2.85 million gallons of liquid scintillator (Blend 110 kgal Dec '11)
- 11,500 km of wavelength shifting fiber from Kuraray Japan (~65% received)
- 356,352 Hamamatsu avalanche photodiode data channels (32 pixel array, left)
- The NOvA experiment will record and analyze neutrino data into the next decade.



Wolf Lake, MN scintillator blending facility



### April, 2011: Gained beneficial occupancy of far detector building

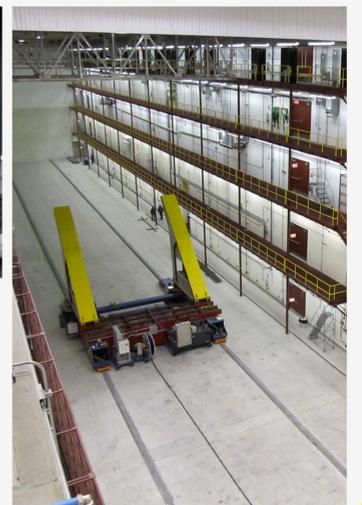
- Located in Ash River, MN 810 km from Fermilab near the Canadian border
- The detector site consists of an assembly area and a detector hall with barite overburden.



## 2012

### February, 2012: Begin detector construction

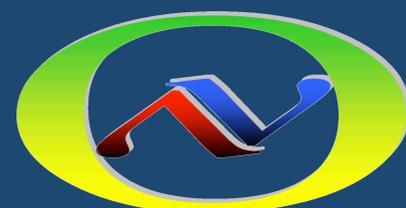
- PVC extrusions are being joined together, strung with fiber, and sealed at the University of Minnesota Module Factory (left).



- Blocks will be placed in the hall (right) and filled with liquid scintillator.
- Block pairs are outfitted with readout electronics.

## 2013

**February: NUMI upgrades, near detector complete. Far detector at ~50%.**



## 2014

For additional information:  
[www-nova.fnal.gov](http://www-nova.fnal.gov)

