## Installation topics

- Discussed installation with TCO. Iterated on location of TCO. Likely to be on beam window end.
- Discussed deviations from far site installation and TPC support and protodune. Details tomorrow during TPC installation discussion.
- Current installation scheme reduces support point penetrations.
- Decided on cryostat face names. NSEW
- Scaffolding dicussion

## **TPC Integration topics**

Filling parameters

Cool Down rate = 40K/hr max 10-15K/hr target

Thermal gradient = 10K/meter

Field cage installation

Current plan is to hinge at the CPA and pivot the top and bottom into position. This will be difficult for the last FC. Rahul is to look at a installation method from the bottom. Rahul is also looking at end wall assembly

We reviewed the clearances between the beam pipe and the TPC

We reviewed the clearance between all the cryo pipes and the TPC and safe installation of the pipes.

## Location of original assuming transvers rail

