

Single phase test at CERN

Installation/Integration plans

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Needed information

- Final TPC dimensions.
- Constraints from top plate design.
 - Locations of feed thru, support locations.
 - Multiple drift distances.
- Decision on TPC support (from cryostat or independent).
- Exact location and orientation of cryostat in EHN1.
- More details on beam window and how this may effect TPC clearances.
- More details on location and size of cryogenic system inside and around the cryostat.
- More details on instrumentation required inside of cryostat
 - Calibration system, camera system, purity monitors, temperature and flow sensors.
- Grounding and isolation requirements and needs.

Tasks (next ~ 9 months)

- Integration / Installation design – Duke, FNAL, Univ. of Wisc., CERN
 - Finalize TPC size, configurations and clearances and integrate into cryostat design.
 - Develop detailed detector installation plans.
 - Estimate and identify work crews required.
 - Identify special tooling needed.
 - Set up trial assembly of TPC in US before shipping components to CERN.
 - Designs to change drift distance from 3.6 to 2.5 m, if required.
- Develop detailed infrastructure required – Duke, FNAL, CERN
 - Clean space for testing, inspection, sub assembly and installation.
 - Access equipment needs.
 - Electrical – power requirements, racks, temporary services for installation in and outside the cryostat, special lighting, cable management.
 - Mechanical – material handling, conveyances.
 - Control room needs.
 - Understand electrical and mechanical needs for cosmic counters planned.
- TPC support – Duke, Univ. of Wisc., CERN
 - Determine if TPC will be supported from cryostat or independent structure.
 - Develop TPC support design and integrate with top plate design.