B.T.Fleming
DUSEL collab mtg
October 14, 2008

# LAr Working Group Discussion

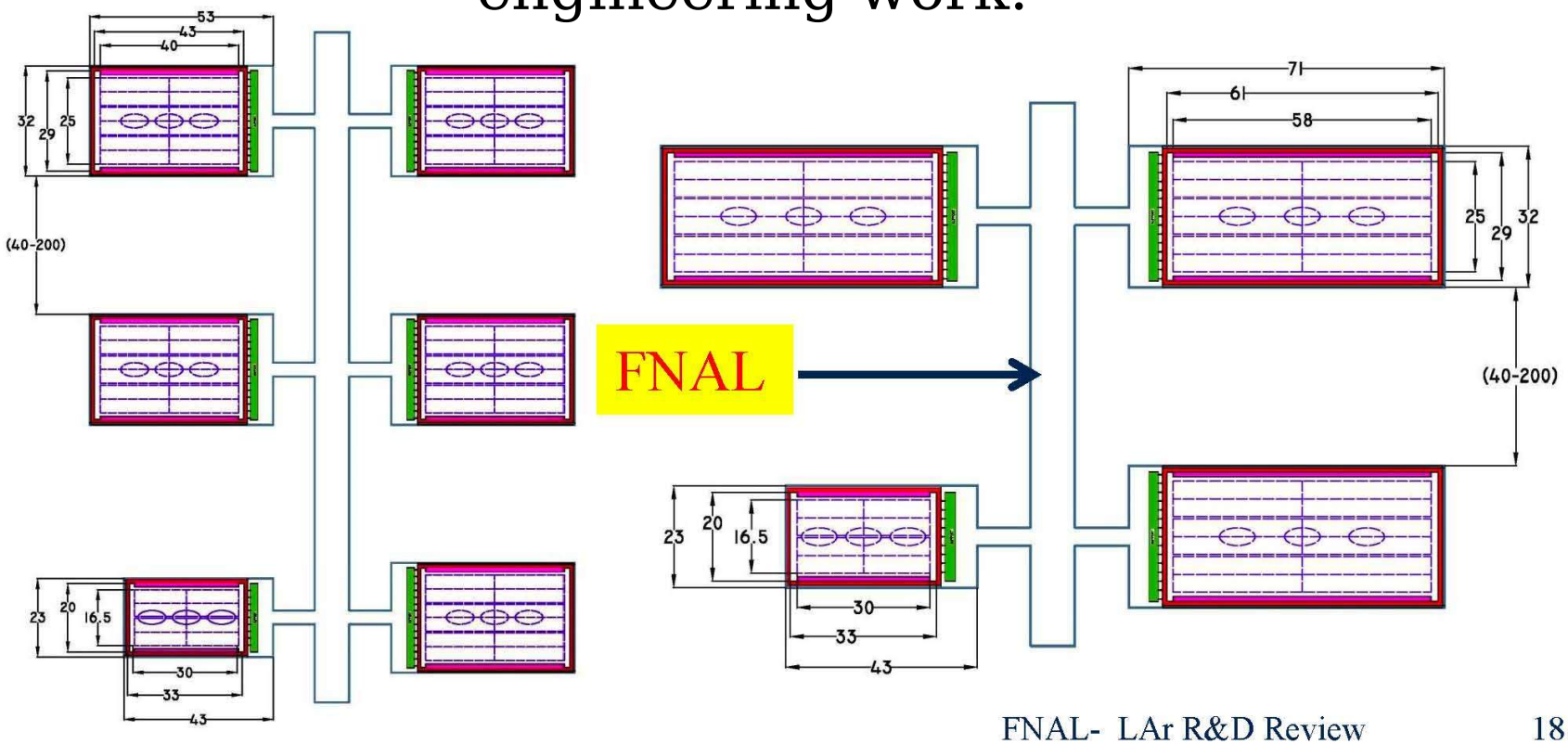
- Baseline plan
  - Detector
  - depth
- Todos en route to S4 proposal
- Organization

Proposed baseline: 5+25 kton LArTPC at DUSEL

→ Size based on reasonable next steps in cost and physics reach

Do we all agree on this?

Detector configuration: takes more study.....
one or more strawman proposals for serious engineering work.






Cryostat

# Detector Depth:

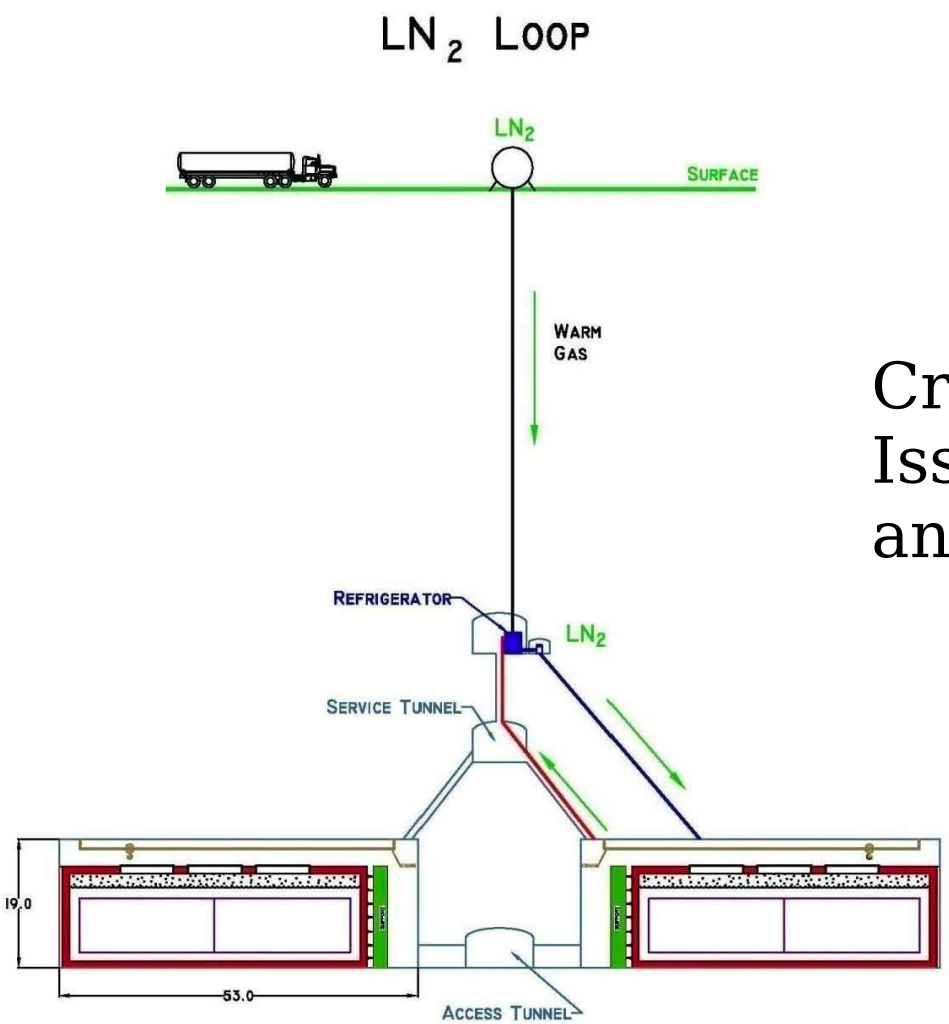
300 ft:
- Cheaper and easier in terms of safety
- Compromises proton decay physics but for 5kton only

4850 ft:
- More difficult and likely costlier
- Better reach in physics
- Same location as next set of detectors

In between: Infrastructure not in place – no gain in cost

Can we answer this now?

Physics Reach




Cryogenics: LN2/Lar/ Purification

Cryogenics, Purification Issues depend on depth and safety issues....

# To dos:

- Set baseline parameters: detector size and depth
- Develop plan on how to get to the first step (5kton)
  - Engineering work on baseline detector
  - Civil engineering for siting underground
  - Electronics R&D
  - Purification R&D
- Integrate with plan for broader DUSEL LB collab.

Near term goal: Lay out plan in S4 proposal due in January

Organize to do this into collaboration structure

# Organization

LBL Collaboration

LBL Beam/Near Detector

Beam

Beam Inst.

Near Detec tor tech. choice

LBL Water

Container

Water Purification

PMTs

LBL LAr

Cryostat

Cryogenics: LN2/Lar/ Purification

TPC/PMT

Electronics

Physics Reach

LBL Facilities

Caver excavation

Safety

Layout

# Proposed Organization of LAr Collaboration within DUSEL LBL collaboration

LBL LAr

LBL LAr Project Manager

LBL LAr Spokesperson

LBL TMB Board

LBL Water C Executive Board

LBL LAr C Technical Coordination

LBL LAr Conveners

LBL LAr Resource Coordinator

Spokesperson and conveners to be voted on by “sub-system” IB

Proposed group structure:

LBL LAr

LBL LAr Spokesperson

Cryostat

Cryogenics:
LN2/Lar/
Purification

LBL LAr Conveners

TPC/PMT

Electronics

Physics Reach

Need people to lead efforts....

Near term goal: Lay out baseline plan in S4 proposal due January 9, 2009