**LTCC Space, Costs**

**Storage Area:**

Jan 2012:

Need of TEDF Storage Area (1 Sector) from Jan. 2012 for electronic tests: PMTs, PMTs basis, HV and electronics. Use of DAQ expected.

June 2012:

Need of TEDF Storage Area (1 + 5 Sectors) for LTCC complete refurbishing until 2014 (Start is scheduled, end?)

The 1 sector working space need 5m between alignment tool and sector.

The space for mirror assembly need to be a clean room.

**Cost Estimate:**

Cabling:

500 LEMO $3K

RG58 and 2 BNC connectors each

Patch Panel (might not be needed)

PMTS Scenarios:

1. 24 Quartz: $168K
2. 36 Quartz: $252K
3. 48 Quartz: $336K

CC Oscilloscope: $6K

Lasers Alignment Equipment: $5K

Computer with DAQ: $3K

2012: Laptop: $3.5K

Tedlar Windows: Ask Youri

New Elliptical Mirrors: Ask Youri

**Labor for 2012:**

0.5 FTE Staff Scientist

1 Visiting Scientist

3 Man Weeks Designer (mirrors, box, alignment tool)

2 Man Weeks Mechanical (build alignment tool)

3 Man Weeks Tech (build scale model, test windows and gas)

1 Man Weeks DAQ Staff3 (install DAQ in TEDF)

**LTCC Scheduled Work**

**Simulation**

Oct 2011 / June 2013

Box redesign

Mirrors Placement Alignment

Replacement Hyperbolical > Elliptical?

Gas Volume Simulation

Efficiency

Digitization

**PMTS, Basis Testing**

Jan / March 2012

Installation Computer, HV, Electronics

Need Black Box (Youri)

Test PMTs, Basis

Basis repairs loop.

**New Electronics**

June 2013 / Dec 2013

HV cables, LEMO cabling for 1 sector

DAQ electronics. FADCS, Patch Panel for 1 sector

Install, Test

**Existing Mirrors**

June 2012 / June 2013

Open Sector

Mirror Inspection

Redeposit Aluminum: Ask Youri

Need to put mirrors in DRAWINGS

**New Mirrors:**

Oct. 2011 – June 2013

Design New Elliptical Mirror

Build Mirrors: Ask Youri

Procurement? Space?

**LTCC Scheduled Work (continued)**

**BOX**

Oct 2011/ Dec. 2012

Box Remodeling

Finish Scale Model: 2 months, already started

Test Gas with elastic window: 20 days

Remodel Sides for gas increase: 1 month

**GAS Lines**

New Gas lines: after box remodeling.

Design

Build: 20 days.

**ALIGNMENT**

Alignment: new tool design

New tool manufacture: 10 days

**Simulation**

Already Started.

Mirror alignments

Rejection Factor

Hyperbolic > Elliptical?

PMTS positioning

**Online calibration**

June 2013 Dec 2013

New FADC testing

Online HV matching, Pedestals, SPE positioning