Minute of meeting

Present: Waqar, Saleh, Hassan, Imran, Imdad, Amir

Indico link:https://indico.cern.ch/event/463783/

26-11-2015

0.1 Assembly Requirement & CERN Report (Waqar)

The basic requirement of Assembly site are :

1. Clean Room

2. Gas System

3. Gas leak measurement system

4. Leakage current measurement system

4. X-Ray Box with SRS system

The clean Room must be certified and rated at least class 1000 for assembly of GEM detectors. Presently the purpose area is EPD clean room and need to be change filter to and measure all set of rules. The clean room must be equipped with clean and dry Nitrogen gas line used to blow the chamber parts during assembly.The main responsible person is Amir Sultan who setup all gas system with all accessories in EHEP and EPD lab.

For measurement of foil leakage current we need to develop compact box as mentioned in my presentation. In the box we should define Nitrogen flushed input and output points and power supply points.

0.2 RPC Upgrade (Saleh)

For RPCs upgrade it is reported that TDR comprehensive review for simulation result will be made on July 2016 and full project review will be made in June 2017 and TDR submission scheduled is September 2017. Along with that on February 4-5, 2016 there will be a Muon Upgrade Workshop, first day is dedicated for new detector and second day for discussion. The Muon week proposal is in April or May and will be held in CERN. For beam test of the RPCs during 2016 it will be put request between April to June for 2 weeks. It is also updated about the new electronics options for the upgraded RPCs, as new detectors are fast there fast electronics should be there to meet the high luminosity requirements of LHC during next run. Lyon group made some new electronics chip named HR2 can be considered for the double gap RPCs and for multigap RPCs they have another ASIC PETIROC which is very fast 20-25ps. A TDC with 25ps is available and will be tested soon. In January there is a plan to give a detail overview of this new electronics developed by

Lyon group by Imad.

0.3 GEM testing setup at NCP (Hassan, Amir, Imdad)

Comparison list present with different modules we have in lab with CERN hardware. After the detail discussion we finalise the list of components we need to procure with priority basis. Hassan will initiate the final list and generate the document for procurement. For saving money we need to procure through foreign procurement and open LC from NCP platform. Grounding facilities is main requirement to reduce the noise. Initilay Imdad find some result using Resistance Meter 1010T with 10 % error. But we need more precise meter to test resistance from junction to junction in Lab.

Cylinder location and gas points is finalized in meeting. Mark layout out diagram where we need gas mixer lines. Amir develop and implement complete gas system we required in lab.

0.4 X-ray Box & SRS (Imran, Imdad)

Discussion is ongoing with different vendors and NCP/QAU Mechanical Lab. Get the estimation cost of X-ray box. For X-ray box we need moveable x-ray source with X Y direction. Imdad build prototype circuit of XY direction motor control using Micro controller and interface with Labview. Due to time constraint SRS system present in next meeting. Link of X-ray source

http://www.amptek.com/contact-us/.

Try to get the quotation with software and all related documentation.

0.5 Infrastructure of GE1/1 at NCP (Hassan, Imdad)

The conclusion of taking data from different scintillators, mutually decided we should procure new PMT with readout system. In a while we take approximately two PMT from EPD and test with same procedure. Hassan will send the list of components as we discuss and finalised in meeting. Action List

1. Calculate efficiency of each good scintillators and plot.

2. Try to adjust as much as low voltage and get the best efficiency because when you increase the voltage with this PMT noise should be increase.

https://twiki.cern.ch/twiki/bin/view/MPGD/CMSGEMTIFUsersPage

above link at CERN testing setup. We have at NCP all given modules provided in this links, try to develop same setup and calculate the efficiency of each scintillators.

0.6 Optohybrid status (Waqar, Imdad)

Need to take the following actions:

1. Get the quotation from different supplier with all care, Components must be RoHS compliant.

2. Develop PCB with ENIG material and maintain 100 ohm impedance.

3. check the possibility for stuffing of components.

OH Garber files uploaded in the below link.

https:drive.google.com/folderview?id=0B0sXZwQ2V4iiMERqYXJWeTV5eEEusp=sharing

NOTE:

Next meeting will be 10-12-2010.