

# PD Electronics Kick-Off Meeting

Zelimir Djurnic, Giovanni Franchi, Deywis Moreno

October 19, 2017

## Agenda

- ① WBS Discussion: Overview. What is there, what is missing? How does it work with other components of PD WBS? -Discussion led by WG convenors
- ② Discussion of Aspirational Interests: process for collecting these inputs, next steps. - Discussion led by WG convenors
- ③ Other Business: Meeting Frequency, etc.

# WBS Part I

1.3.1	Read-Out Electronics Modules	
1.3.1.1	Design	Final pre-productions revisions/modifications to readout electronics
1.3.1.2	Fabrication	Fabrication of production readout electronics modules
1.3.1.3	Test Stand Design	Design and fabrication of electronics module test stand
1.3.1.4	Testing	Testing of readout electronics modules
1.3.1.5	Firmware programming	Firmware programming of electronic modules as required for DAQ or other
1.3.2	SiPM Ganging (Active?)/Mounting	
1.3.2.1	Design SiPM Mounting	Final pre-productions revisions/modifications to SiPM mounting boards
1.3.2.2	Fabricate SiPM Mounting	Fabrication and stuffing of production SiPM mounting boards
1.3.2.3	Fabricate Mounted SiPM Test Stand	Design and fabrication of mounted SiPM test stand
1.3.2.4	Test mounted SiPM units	Testing of mounted SiPMs
1.3.3	Cables	
1.3.3.1	Cold Signal Cables	
1.3.3.1.1	Selection/Validation	Final selection/validation of cold signal readout cables/connectors
1.3.3.1.2	Fabrication/Procurement	Fabrication/procurement of cold signal readout cables/connectors
1.3.3.1.3	Test Stand Design	Design and fabrication of cold signal cable/connector test stand
1.3.3.1.4	Testing	Testing of cold signal cables

# WBS Part II

1.3.3.2	Cold active ganging power cable (if needed)	
1.3.3.2.1	Selection/Validation	Final selection/validation of cold active ganging power cables/connectors
1.3.3.2.2	Fabrication/Procurement	Fabrication/procurement of cold active ganging power cables/connectors
1.3.3.2.3	Test Stand Design	Design and fabrication of cold active ganging power cable/connector test stand
1.3.3.2.4	Testing	Testing of cold active ganging power cables
1.3.3.3	Warm signal cables	
1.3.3.3.1	Selection/Validation	Final selection/validation of warm signal readout cables/connectors
1.3.3.3.2	Fabrication/Procurement	Fabrication/procurement of warm signal readout cables/connectors
1.3.3.3.3	Test Stand Design	Design and fabrication of warm signal cable/connector test stand
1.3.3.3.4	Testing	Testing of warm signal cables
1.3.3.4	Warm active ganging power cables (if needed)	
1.3.3.4.1	Selection/Validation	Final selection/validation of warm active ganging power cables/connectors
1.3.3.4.2	Fabrication/Procurement	Fabrication/procurement of warm active ganging power cables/connectors
1.3.3.4.3	Test Stand Design	Design and fabrication of warm active ganging power cable/connector test stand
1.3.3.4.4	Testing	Testing of warm active ganging power cables

# WBS Part III

1.3.4	PD Electronics Power Supplies	
1.3.4.1	Low-Voltage Power Supplies	
1.3.4.1.1	Selection/Validation	Final selection/validation of production non-bias power supplies
1.3.4.1.2	Procurement	Procurement of production non-bias power supplies
1.3.4.1.3	Testing	Testing of production non-bias power supplies
1.3.4.2	Bias-Voltage Supplies	
1.3.4.2.1	Selection/Validation	Final selection/validation of production bias power supplies
1.3.4.2.2	Procurement	Procurement of production bias power supplies
1.3.4.3	Testing	Testing of production bias power supplies
1.3.5	Grounding scheme for PD electronics/cables/power supplies	Coordination with pd integration group, DUNE grounding and APA/DAQ to develop grounding
1.3.6	PDS <u>Monitoring</u> /Calibration System	
1.3.6.1	Pre-production monitoring design	Design of PD monitoring (calibration?) system
1.3.6.2	Materials Selection	
1.3.6.3	Prototyping	
1.3.6.4	Fabrication	
1.3.6.5	Test Stand Development	
1.3.6.6	Testing	

To be discussed

- ① Active or Passive ganging
- ② Trigger System Strategy (SN-NDK-Atm)
- ③ Timing System Interface
- ④ DAQ ReadOut (Interfaces DAQ Cons.)
- ⑤ Calibration/Monitoring?
- ⑥ Signal Cable Feedthrough needs to be added to WBS list?
- ⑦ Interface with other groups (TPC CE, TPC APA, DAQ)

# Aspirational Interests

## How to proceed

- 1 Please send us your feedback about WBS. What is missing, what needs to be added, etc.
- 2 Send a slide providing a list of aspirational interest per institution.
- 3 You can send the comments and slide to:  
zdjurcic@anl.gov  
gfranchi@agescientific.com  
deymoreno@uan.edu.co