

Answers to recommendations from committee report of icBLM PDR1 not addressed at nBLM CDR1.1

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- **“Choose between direct current readout and LHC data acquisition ASAP to focus resources. Consider temporal resolution requirements (from beam physics) and whether or not there is a need for automatic gain switching.”**
 - Done. Though decision taken very late.
 - We did not go for the BLEDP solution even though it shows better performances in terms of noise with long cables as we have no resource to test, procure and assemble a set of custom crates and cards, as well as make progress on debugging firmware.

- **“Verify the ability to produce 10mA of loss current potentially in several detectors connected to one HV supply.”**
 - It has not been checked but it is in the pipeline.
 - HV supply gives 600 mA (datasheet), and we have a 0.47 mF capacitor at the detector. This in theory gives us the possibility to support 10 mA of loss current in several detectors. It has to be confirmed through testing though.

- **“Consider eliminating automatic gain switching and maybe gain setting as well”**
 - Not relevant: automatic gain switching is only relevant for the BLEDP system.

Timing and control ICS

- **“Full timing information to be available for BI FPGA in addition to a trigger line over backplane.” - @icBLM PDR1 (July 2017)**
- **“Timing information beyond simple triggers is needed in the FPGA. Currenty the timing link data package is routed through software. Issue from PDR not resolved.” @nBLM CDR1.1**
 - See “Answers to nBLM CDR1 committee recommendations”

Timing and control ICS

- **“Finalize requirements for RF-only pulse.”**
 - Done – see CDR material and “Data Processing” talk.
 - Normal operation:
 - Empty pulses (RF present, no beam) agreed with Timo during normal operation
 - To be used by BCM (calibration) and icBLM (background subtraction)
 - Possible every 5-20min.
 - Start-up procedure:
 - After RF settings fixed and before beam production, min ~500 empty pulses (~35s) needed to acquire initial statistic on background waveform.
 - OKed by Timo.