

Session 5 Summary.

Answers to the questions for session 5.

1) All systems

a) Initial requirements documents: Muon and Pixel trigger groups will write separate requirements and specifications documents. The documents may refer to each other. For the pixel system, finer scale documents may be created if deemed necessary after larger scope documents are done.

b) Lab requirements: These systems have cooling, low voltage distribution and flammability issues at the same level as most other systems.

h) Reliability

i) MTBF analysis: yes, it should be easily based on component manufacturers information.

ii) Redundancy: The trigger architecture will allow some amount of redundancy to be built in.

iii) Analysis of failure modes: How we cope with failures is par of the design. Soft failure and fault tolerance are important.

iv) Fault tolerance: Some percentage of the system can fail with only small effect on the entire system. Details to follow.....

v) Maintainability: The design is meant to be very modular.

15) Software

a) Integrating s/w and h/w

i) Switch: The trigger switch developments will track and piggyback the DAQ switches.

ii) Configuraton management: The trigger system will have a separate control/initialization/monitoring system. It will connect to the slow controls at a high level. Ethernet.

Schedule for triggers.

Task	Now		Aug/Sept	November
Requirements Specifications	Write now			Write TDR
DSP		-Algorithm Coding & Testing	- Prototype software on evaluation Board -Timing studies to size farm	Cost DSP farm Write TDR
Pixel Proc. FPGA Tracker	-Queuing and data flow investigations	-Algorithm Simulation.	Prototype a single Pixel processor and FPGA Tracker	Prototype multiple units Write TDR
Switches CIM fabric		- Switch development to track DAQ hardware	Prototype	Scale up prototype? Write TDR
Muon Trigger	C DSP s/w FPGA VHDL		June = decision on FPGA tracker compatibility	Write TDR