

MVD Status

Jehanne Simon-Gillo

**Detector Council Meeting
January 10, 1997**

**Recent Progress
Milestones
Short-term goals
Issues and Concerns**

Short-term goals (2-3 months)

Presented at DC Meeting 11/96

Mechanical

Prepare for FDR

Finalize pad detector design

Water cooling prototype

Full system cooling tests

Finish full-scale mechanical prototype tests

Develop RF enclosure forming procedures

Final touches on assembly and installation

FEE

Common FEE review

Finalize analysis of beam test data

Submit AMU/ADC r2

Test TGV5

Beam test plans for 97

Test pre-prototype MCM

Investigate options for testing die

PDR

Identify more manpower resources

Recent Progress - Mechanical

Prepare for Final Design Review

Ongoing... Late Feb 97

Finalize Pad Detector Design

Ongoing... Double vs single

Tested two detectors; DC characteristics look acceptable.

AC operation, source & laser, crosstalk

Technology choice ending January

Water Cooling Prototype

Ongoing...

Jehanne & Michel Bosteels

Debbie Clark, Jan Boissevain, Rachel

Cunningham

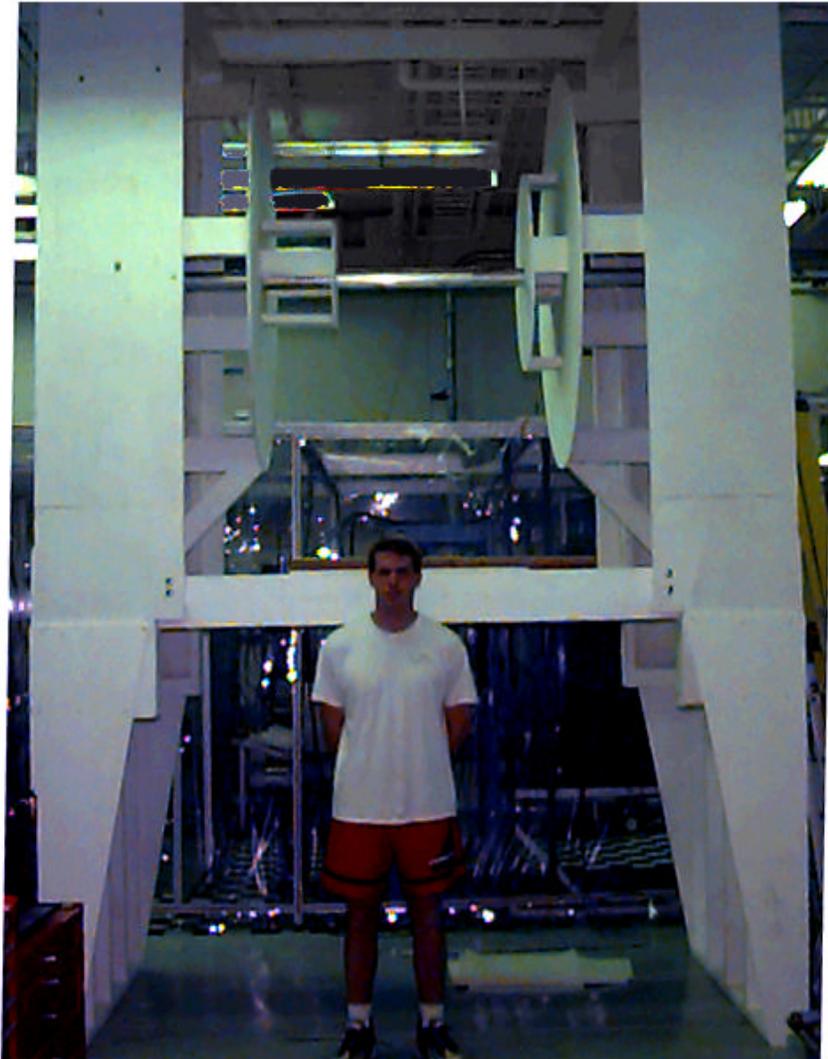
Finalizing Docutem Cooling Testmentation

Full System Cooling Tests

Ongoing...

Under construction.

Prototyping



Fullscale!
Represent all mechanical components
Mechanical studies
Assembly issues, jigs
Cables, connectors
Integration
Assembly procedure

Recent Mechanical Progress (cont)

Finish full-scale mechanical prototype tests

Ongoing....

In parallel with cooling tests.

Nose Cone Design

Discussions with Muon Group - no objections or alternatives.

Tool for connecting fiber joints. - NO disassembly of nose cones.

Wire link vs Fiber Optic Link?

Right angle connectors exist for wire link.

Develop RF enclosure forming procedures

Done.

Suggested procedure proposed - Bosze.

Forming jigs under construction.

Finalize Assembly and Integration document

Done. Draft completed and distributed- Jan Boissevain.

Additional Mechanical Progress

Submitted paper to Nucl. Instru. and Methods.

Eric Bosze, UCR/LANL

Rohacell as a Silicon Support Structure

Rohacell Machining & Handling Procedures

Eric Bosze

"Factory" at UCR.

Glue Candidate Studies

Bosze

Silicon/Rohacell

RF enclosure

Started discussions on Safety Reviews

Jan Boissevain

Initial meeting with Jane Throwe

Beam pipe issues

Investigating March date

Recent Progress - Electronics

Common FEE Review

Participated November 96

Jon Kapustinsky

Concerns on schedule, manpower

Finalize analysis of beam test data

Complete, 2 Tech notes

Producing NIM paper draft

Gain studies (HVH, etc)

Worse case- factor of 3

Submit AMU/ADC r2

Done 11/96. 32 chan

Test TGV5

8chan. TGV5 received. Test boards fabricated and received. Tests beginning.

Recent Progress - Electronics (cont)

Beam test plans for '97

Uncertain participation in Fall 97 sector test.
Large schedule and manpower uncertainties.
Ongoing discussions, collecting info to understand hardware & manpower needed - decision at MVD Collaboration Meeting.
MCM production schedule does not allow feedback from sector test - system and integration tests.

JK - "Reasonable risk"

Electronics will be fully tested on bench.
Ideally- beam to study noise issues.
External noise issues - Rohacell shield - flexibility in design.
No red flags from first beam test.
Still under discussion.

Test Pre-prototype MCM

Awaiting delivery - 1/97?

Awaiting replacement of MCM liason with vendor.

Recent Progress - Electronics (cont)

Investigate options for testing die

Ongoing...

Commercial vs in-house.

Have identified ORNL person- investigating options and needed equipment.

Preliminary report at MVD Collaboration Meeting.

MVD Preliminary Electronics Review

Done. 12/96

Awaiting feedback.

Identify more manpower resources.

Manpower is insufficient for assembly, testing and installation.

Progress made, still ongoing...

MVD Collaboration - Dec '96

Los Alamos National Laboratory

Oak Ridge National Laboratory

University of Alabama @ Huntsville

University of California @ Riverside

Yonsei University, Korea

(New Mexico Institute of Technology)



Milestones

Mechanical

Strip Detector Design	Jun-96	
<i>Pad Detector Design</i>	<i>Oct-96</i>	<i>Double vs Single - 2/97</i>
MVD chain test	Apr-96	Loose ends on analysis
Preliminary Design Review	Aug-96	
MCM Cooling Design Review	Aug-96	
All detectors received	Apr-97	
<i>*Final Design Review</i>	<i>Dec-96</i>	<i>Probably Jan-Feb</i>
Subassemblies complete	Mar-98	
Assembly complete	Oct-98	

FEE

Review AMU/ADC r1	Mar-96	
Review TGV r2	Nov-95	
Review AMU/ADC "r2"	Jan-97	Design started Oct96, submit Nov
<i>Review TGV5 tiny</i>	<i>Nov-96</i>	<i>Submitted Oct96</i>
*Review TGV "r3"	Feb-97	Submit Feb97
<i>*Test preprototype MCM</i>	<i>Nov-96</i>	<i>Probably in Jan97</i>
Prot. MCM vendor rev.	Mar-97	Could slip by several months
<i>FEE PDR</i>	<i>Oct-96</i>	<i>Dec 3 via video conference</i>
MCM design complete	Oct-97	
Chip fab complete	Oct-97	
MCMs complete	Apr-98	

Miscellaneous

MVD Listserver : phenix-mvd-l

[PHENIX subsystem presentations/posters at major conferences.](#)

John Sullivan - ICPAQGP97

Hubert van Hecke - APS

[MVD Collaboration Meeting](#)

LANL January 22,23

[Bottoms up Cost Estimate](#)

Ongoing. V3 to V4

Status -Have started on mechanics file.

Resources, deleting & adding tasks...

Hope to submit ending Jan/early Feb.

Who- JSG, JB, JK - and discuss with group.

MVD Responsibilities - Dec '96

Lead Mechanical Engineer:

[Jan Boissevain](#)

Lead Electronics and Silicon Engineer:

[Jon Kapustinsky](#)

System Integration Engineer:

[Jan Boissevain](#)

Mechanical Coordinating Physicist:

[Jehanne Simon-Gillo](#)

Electronics Coordinating Physicist:

[John Sullivan](#)

Simulation Coordinating Physicist::

[Hubert van Hecke](#)

Online Software Coordinating Physicist:

[Hubert van Hecke](#)

Offline Software Coordinating Physicist:

[John Sullivan](#)

Database Coordinator:

[Hubert van Hecke](#)

Issues and Concerns

Overall Schedule uncertainty

Little to no flexibility in MCM schedule
Full impact and schedule understood when
merge production schedule & bottoms up.

MCM

Known Good Die
Liason with vendor

Beam test

When, Who and with what?

Manpower

Need help for assembly, testing, installation,
simulations, calibration & analysis software.

Manpower at ORNL also tight.

Short-term goals (2-3 months)

Mechanical

Prepare for FDR & Safety Review

Finalize pad detector design

Full system cooling tests

Finish full-scale mechanical prototype tests

Kapton cable vendor choice

Finalize Rohacell cage design, handling & machining procedures.

FEE

Test TGV5

Beam test plans for 97

Test pre-prototype MCM

Investigate options for testing die

Design of interface boards & motherboards

Physics simulations

Identify more manpower resources

Bottoms up cost estimate

MVD Collaboration Meeting