

FVTX Transition to Operations

PHENIX FVTX Close Out

April 23, 2012

BNL

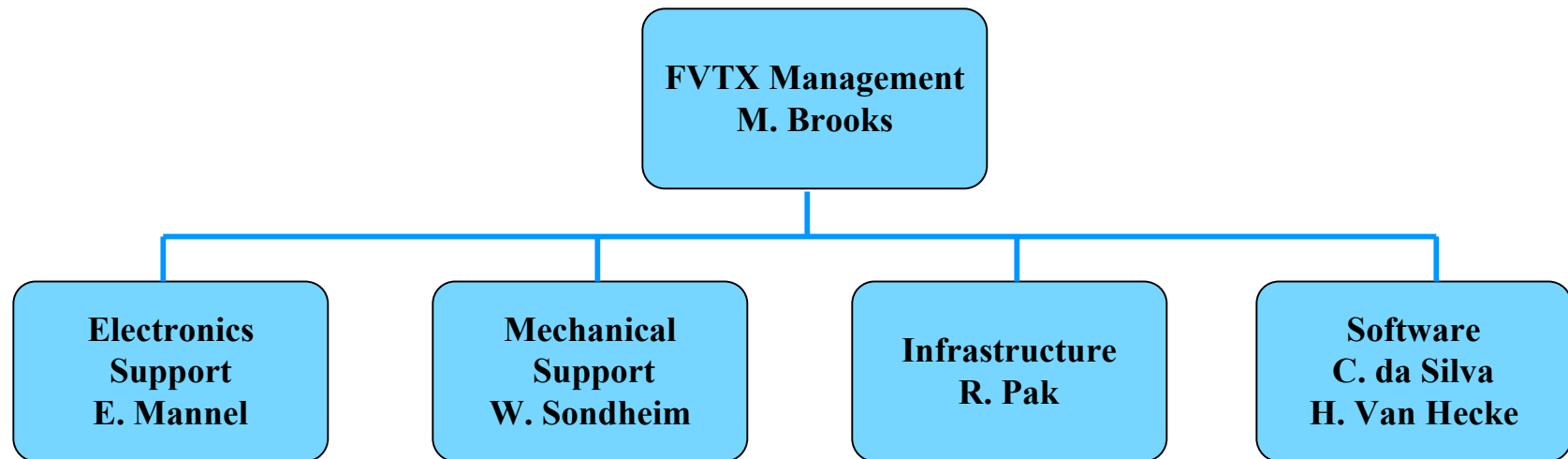
Transition to Operations Timeline

- **Completed FVTX installed in PHENIX IR** **Dec 9, 2011**
- **PreOps/Commissioning Phase** **Nov 2011- Mar 2012**
- **FVTX Operation. Data taking in 510 GeV p+p run** **Mar 2012**
- **End of RHIC Run-12. Beginning 2012 Shutdown** **June 2012**
- **Start of RHIC Run-13** **Jan 2013**

FVTX M&O Scope of Work

- 1. Coordinate the maintenance and operation of the PHENIX FVTX detector during FY2012, RHIC Run-12 and all future RHIC runs and maintenance periods.**
- 2. Investigate, diagnose, and fix the numerous system integration issues expected to arise during the commissioning and operation of an electronics system of this complexity**
- 3. Maintain detector sensor wedges.**
- 4. Maintain read-out electronics boards.**
- 5. Maintain FVTX slow controls.**
- 6. Coordinate the maintenance of the LV and HV supplies and distribution system.**
- 7. Coordinate the maintenance of the cooling and dry nitrogen system.**
- 8. Maintain the data bases that contain the locations and test history of the detector modules and the readout-cards, and their calibration information. Monitor the stability of the noise-levels and gain-values over time.**
- 9. Maintain the online QA diagnostic plots.**
- 10. Insure that the system is well documented for shift operation and that the shift crews are well trained to operate the system safely and efficiently.**
- 11. Develop and maintain support algorithms for offline analysis software, simulation software and data production software for FVTX**

FVTX M&O Org Chart



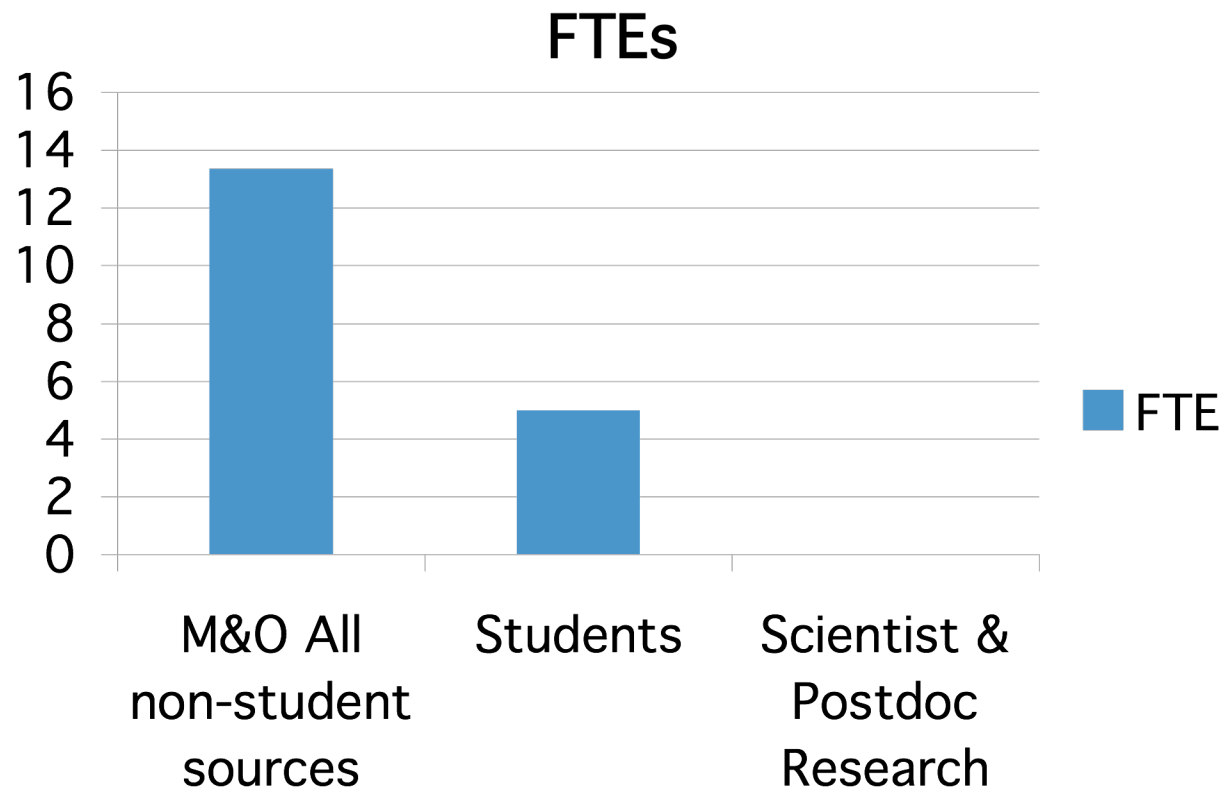
M&O Responsibilities by Institution

Institution	Operation and Maintenance Responsibility
Brookhaven National Laboratory	Infrastructure E, S, H & Q Cooling systems Power Distribution, Interlock support Integration support On site support
Los Alamos National Laboratory	FEE Power Distribution support Software support Mechanical engineering On site support
New Mexico State University	Detector assembly maintenance support Software support On site support
University of New Mexico	Silicon sensors, HDIs, extension cables, assembly Software support On site support
Columbia University	Wedge assembly Software support On site support DCM maintenance
University of Colorado	DCM maintenance

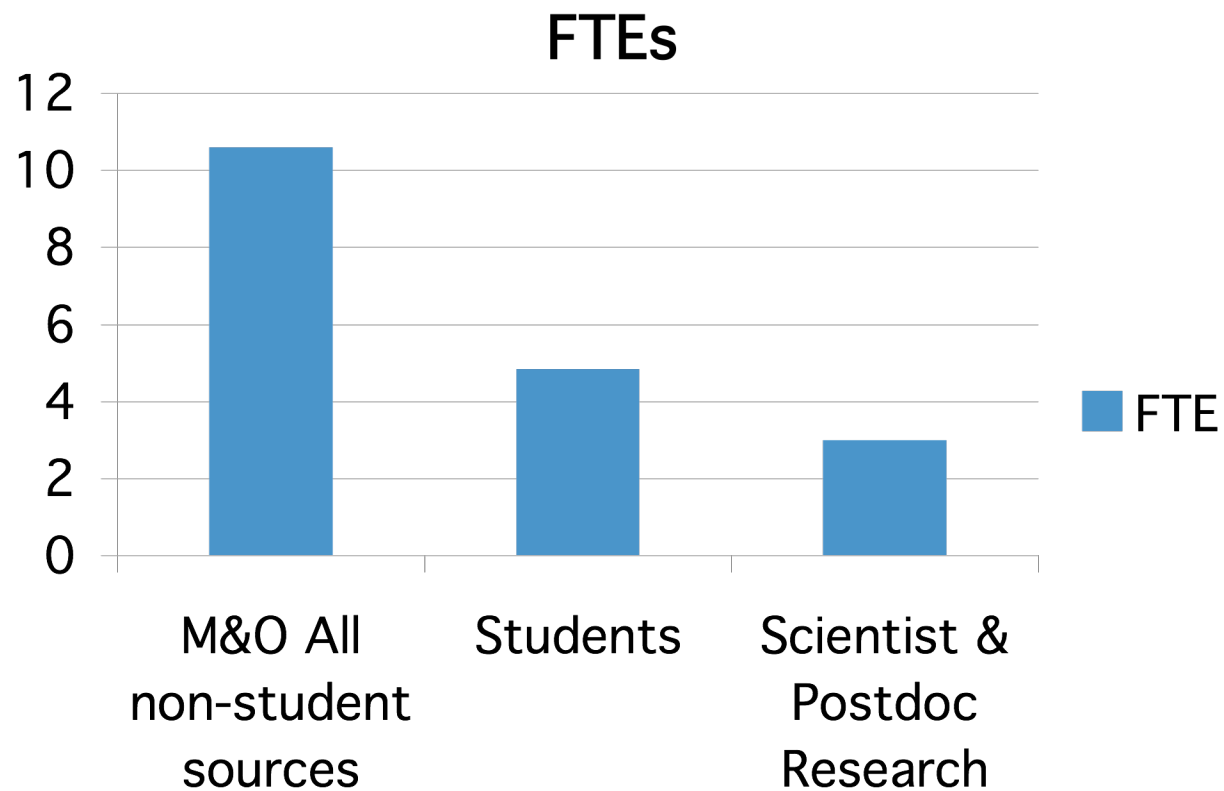
Summary of Trans to Ops Plan

- All engineering and technical effort on FVTX is counted as M&O labor
- Scientific and postdoc labor dedicated to M&O tasks is counted as M&O labor
- Graduate student labor is not counted toward the M&O effort but is tabulated separately
- Research work on the FVTX by scientists and postdocs is not shown in the Transition to Operations Plan, but has been estimated for planning purposes
- M&O resource requirements will plateau in 2013 and remain at a constant level into the future
- Propose to use remaining project contingency to support commissioning and purchase of spare parts
- Request \$25k increase in funds at LANL for FVTX operations starting in FY13

FVTX Labor for FY12



FVTX Labor for FY13 and Steady State



BNL M&O FY12

Person	FY12 FTE	Task
S. Boose	0.2	LV/HV Infrastructure
P. Giannotti	0.2	E, S, H & Q
J. Haggerty	0.2	LV, HV, DAQ onsite support
M. Lenz	0.3	Wedges, infrastructure
D. Lynch	0.2	Infrastructure, on site support
E. Mannel	0.5	FVTX electronics management
R. Pak	0.3	Infrastructure, E,S,H&Q , cooling, on site support
R. Pisani	0.2	LV, HV, cooling
M. Purschke	0.2	HV, DAQ, on site support
F. Toldo	0.2	LV, HV, on site support
J. Tradeski	0.2	Cooling
Total	2.7	

Item	Fully Burdened Funds
General M&S	\$50,000
Spare parts	\$20,000
Engineering/Tech support	\$20,000
Travel	\$2,000
Total	\$92,000

LANL M&O FY12

Person	FY12 FTE	Task
M. Brooks (staff)	0.6	Management/Technical, analysis software
H. Van Hecke(staff)	0.9	Management/Technical, analysis software
P. McGaughey(staff)	0.5	Technical
M. Liu(staff)	0.35	Technical, analysis software
W. Sondheim(staff)	0.2	Technical
J. Kapustinsky(staff)	0.1	Management/Technical
X. Jang(staff)	0.2	Technical
C. Aidala(PD, staff)	0.4	Technical, analysis software
C. Da Silva(PD)	0.5	Technical, analysis software
M. Durham(PD)	0.5	Technical, analysis software
J. Huang(PD)	0.5	Technical, analysis software
K. Lee(PD)	0.5	Technical, analysis software
Engineering/tech support	0.1	
Total	5.35	

Item	Fully Burdened Funds
General M&S	\$0
Engineering/Tech support	\$50,000
Travel	\$50,000
Total	\$100,000

Part of \$100k of M&O funds available in FY12 came from FY11 carry over

University of New Mexico M&O FY12

Person	FY12 FTE	Task
D. Fields	0.2	Management
A. Datta (PD)	1.0	Technical, analysis software
S. Butsyk (PD)	0.5	Technical, analysis software
A. Key (grad student)	1.0	Technical, analysis software
K. DeBlasio (grad student)	0.15	Detector Maintenance
D. Thomas (grad student)	0.3	Detector Maintenance
Total	3.15	

Item	Fully Burdened Funds
General M&S	\$4,000
Travel	\$12,000
Total	\$16,000

New Mexico State University M&O FY12

Person	FY12 FTE	Task
S. Pate (Prof)	0.25	Management/Technical
V. Papavassiliou(Prof)	0.25	Management/Technical
X. Wang(PD)	1.0	Simulation, analysis software
F. Wei(PD)	1.0	Technical, analysis software
E. Tennant(grad student)	1.0	Analysis
A. Meles(grad student)	1.0	Technical, analysis software
D. Perera(grad student)	0.75	Technical, analysis software
New grad student	0.25	Technical, analysis software
Total	5.5	

Item	Fully Burdened Funds
General M&S	\$0
Travel	\$18,000
Total	\$18,000

Columbia University & Nevis Labs M&O FY12

Person	FY12 FTE	Task
B. Meredith(PD)	0.5	Technical, analysis software
A. Veicht(grad student)	0.5	Technical, analysis software
C Y Chi	0.1	DCM II maintenance
Technician	0.15	DCM II Maintenance
Total	1.35	

M&O funds to come from existing grant

University of Colorado M&O FY12

Person	FY12 FTE	Task
M. McCumber(PD)	0.25	DCM II operations
J. Nagle(Prof)	<0.05	DCM II operations
Total	0.25	

M&O funds to come from existing grant

BNL M&O 2013

Person	FY13 FTE	Task
S. Boose	0.2	LV/HV Infrastructure
P. Giannotti	0.2	E, S, H & Q
J. Haggerty	0.2	LV, HV, DAQ onsite support
M. Lenz	0.3	Wedges, infrastructure
D. Lynch	0.2	Infrastructure, on site support
E. Mannel	0.5	FVTX electronics management
R. Pak	0.3	Infrastructure, E,S,H&Q , cooling, on site support
R. Pisani	0.2	LV, HV, cooling
M. Purschke	0.2	HV, DAQ, on site support
F. Toldo	0.2	LV, HV, on site support
J. Tradeski	0.2	Cooling
Total	2.7	

Item	Fully Burdened Funds
General M&S	\$50,000
Spare parts	\$20,000
Engineering/Tech support	\$20,000
Travel	\$2,000
Total	\$92,000

LANL M&O 2013

Person	FY13 FTE	Task
M. Brooks (staff)	0.4	Management/Technical, analysis software
H. Van Hecke(staff)	0.4	Management/Technical, analysis software
P. McGaughey(staff)	0.2	Technical
M. Liu(staff)	0.3	Technical, analysis software
W. Sondheim(staff)	0.2	Technical
X. Jang(staff)	0.2	Technical
New PD	0.3	Technical, analysis software
C. Da Silva(PD)	0.3	Technical, analysis software
M. Durham(PD)	0.3	Technical, analysis software
J. Huang(PD)	0.3	Technical, analysis software
K. Lee(PD)	0.3	Technical, analysis software
Engineering/tech support	0.1	
Total	3.3	

Item	Fully Burdened Funds
General M&S	\$5,000
Engineering/Tech support	\$70,000
Travel	\$50,000
Total	\$125,000

\$125k of FY13 M&O funds requires \$25k in new funds at LANL

University of New Mexico M&O 2013

Person	FY13 FTE	Task
D. Fields	0.2	Management
A. Datta (PD)	1.0	Technical, analysis software
S. Butsyk (PD)	0.5	Technical, analysis software
A. Key (grad student)	1.0	Technical, analysis software
K. DeBlasio (grad student)	0.3	Detector Maintenance
D. Thomas (grad student)	0.3	Detector Maintenance
Total	3.3	

Item	Fully Burdened Funds
General M&S	\$4,000
Travel	\$15,000
Total	\$19,000

New Mexico State University M&O 2013

Person	FY13 FTE	Task
S. Pate (Prof)	0.25	Management/Technical
V. Papavassiliou(Prof)	0.25	Management/Technical
X. Wang(PD)	1.0	Simulation, analysis software
F. Wei(PD)	1.0	Technical, analysis software
A. Meles(grad student)	1.0	Technical, analysis software
D. Perera(grad student)	1.0	Technical, analysis software
New grad student	0.25	Technical, analysis software
Total	4.75	

Item	Fully Burdened Funds
General M&S	\$0
Travel	\$18,000
Total	\$18,000

Columbia University & Nevis Labs M&O 2013

Person	FY13 FTE	Task
B. Meredith(PD)	0.2	Technical, analysis software
A. Veicht(grad student)	1.0	Technical, analysis software
C Y Chi	0.05	DCM II maintenance
Technician	0.05	DCM II Maintenance
Total	1.3	

M&O funds to come from existing grant

University of Colorado M&O 2013

Person	FY13 FTE	Task
M. McCumber(PD)	0.05	DCM II operations
J. Nagle(Prof)	<0.05	DCM II operations
Total	0.05	

M&O funds to come from existing grant

Summary

- **FVTX Commissioning phase recently ended. Operations has started.**
 - **O(4G) events were taken with the FVTX during the Run-12 p+p 510 GeV running period that just ended.**
- **Institutional M&O responsibilities are defined**
- **M&O resources are adequate for FY12**
- **Modest M&O funding increase at LANL in FY13**
- **M&O resource needs reach steady state in FY13**
- **VTX M&O labor mix seem well matched to project requirements**
- **Mix of M&O labor + grad students + scientific research labor appropriate for support of subsystem the scale of the FVTX**