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## Mu2e: Introduction and the Fermilab Context

Greg Bock
Director's Independent Design and CD-2/3 Review of the Mu2e Project
July 8, 2014

### **Mu2e in Context**

- The Mu2e experiment is an integral part of the US HEP Program, and therefore is a central activity at Fermilab
- The larger Muon campus physics program, which includes both the Muon g-2 experiment and the Mu2e experiment, is one of the main focuses of the laboratory's efforts over the next decade
- Together with the neutrino program, the muon program defines the U.S. domestic accelerator-based particle physics program for the next decade

We are committed to getting this right



# Mu2e is One Element of an Integrated Muon Program

- The Muon g-2 and Mu2e Projects depend on non-project upgrades to the accelerator complex and infrastructure, a collection of activities called the Muon Campus Program
- The larger Muon Program integrates three components:
  - Muon g-2 experiment (DOE O413 Project),
  - Mu2e experiment (DOE O413 Project)
  - the Muon Campus Program (Accelerator Improvement Projects and General Plant Projects, funded through Accelerator Operations funding)
- Advantages: integrated planning reduces total costs and ensures overall success
- Risks: Interdependence...stumbling on one piece may affect the others

We understand the advantages and risks and are working to ensure success of the integrated program



#### **Chief Accelerator Officer**

S. Nagaitsev

## **Muon Campus Program Organization**

**Deputy Chief Research** Officer G. Bock

**Particle Physics Division** Head

M. Lindgren

#### **Accelerator Division** Head

S. Nagaitsev

#### **Muon Campus Program** Coordinator

M. Convery (AD)

#### Mu2e

R. Ray (PPD)

#### **L2** Accelerators

S. Werkema (AD) L3 Ext Beamline: C. Johnstone L3 Ctrls Instrum: B. Drendel Install Coord: C. Gattuso Beamline Mech E: C. Ader

### g-2

C. Polly (PPD)

#### **L2** Accelerators

M. Convery (AD)

L3 Beamlines: J. Morgan L3 Ctrls Instrum: B. Drendel Install Coord: C. Gattuso Beamline Mech E: C. Ader

#### MC-1 Building GPP

**Project Director** 

E. Gottschalk (PPD)

**Project Manager** 

R. Alber (FESS)

**MC Beamline Enclosure GPP** 

**Project Director** 

G. Annala (AD)

**Project Manager** 

T. Lackowski (FESS)

**MC Infrastructure** 

### **AIP Installation** Coordinator

C. Gattuso (AD)

**AIP Beamline Mechanical Engineer** C. Ader (AD)

#### **MC Cryo Plant AIP**

**Project Director** 

G. Annala (AD)

**Project Manager** 

A. Klebaner (AD)

#### **MC Beam Transport AIP**

**Project Director** 

G. Annala (AD)

**Project Manager** 

I Kourbanis (AD)

L2 Beamlines: J. Morgan

L2 Ctrls Instrum: B. Drendel

#### **MC Delivery Ring AIP**

G. Annala (AD)

**Project Manager** 

#### **MC Recycler RF AIP**

**Project Director** 

I. Kourbanis (AD) **Project Manager** 

I. Kourbanis (AD)

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**Project Director** 

G. Annala (AD)

L2 Beamlines: J. Morgan L2 Ctrls Instrum: B. Drendel

- Same team working on Mu2e accelerators and AIP beamlines (Muon Dept)
- Common installation coordinator and beamline mechanical engineer



**Upgrade GPP Project Director** R. Ortgiesen (FESS) **Project Manager** 

4 T. Lackowski (FESS)

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## Integration

- Interfaces and dependencies between Mu2e and the non-project Muon Campus program are ensured through actively managed *Interface* Milestones
- The establishment of requirements and specifications of the common elements involves all stakeholders
- Configuration Management and Change Control processes in place and incorporate relevant stakeholders

We recognize the need to manage the interfaces and dependencies and have the necessary processes in place to do so



## **Oversight and Decision-Making**

- Monthly Project Management Group (PMG) meetings of Muon g-2, Mu2e and Muon Campus
  - Attendees include (at a minimum) the Project, PMs for all three Projects, Sr Mgmt incl Division Heads, key Dept. Heads
- Monthly Project Oversight Group (POG) meetings
  - Review of performance of all ongoing construction Projects (and the Muon Campus)
  - Attendees include (at a minimum) Laboratory Director and all Sr. Management,
     Division/Section/Center Heads, Project Managers
  - Forum for raising resource needs and conflicts
- Muon Campus Meeting w/Lab Management
- Integrated Budget and Planning
  - Budget decisions and conflicts managed at Sr. Management level

We recognize the complexity and have the necessary organization and processes in place



## **History of Assessments**

- Internal Review of Muon Campus AIPs, Jan. 23, 2013
- Director's Review of Project Management, March 25-27, 2013
- Director's Independent Conceptual Design Review of the Mu2e Project, May 3-5, 2011
- Independent Project Assessment of the Muon Campus Program, July 8-10, 2013
- Director's CD-1 Readiness Review of the Mu2e Project, April 3-5, 2012
- DOE CD-1 Review of the Mu2e Project, June 5-7, 2012



## **Summary**

- Success of the Muon Program, of which Mu2e is an element, necessarily requires an integrated approach
- While challenging compared to a standalone project or program, we appreciate the advantages and risks and are working to ensure the success of the integrated Muon Program
- We recognize the complexity and have the necessary organization and processes in place to ensure success
- Sr. Lab Management is engaged and actively supporting the integrated Muon Program

We are committed to getting this right

