

Quality Assurance@CD



Bakul Banerjee
Computing Division
December 16, 2008

Fermilab QA Overview



- ⌘ **Background**
- ⌘ **Organization**
- ⌘ **Documents & Standards**
- ⌘ **QA Criteria**
- ⌘ **Activity Plans and Timeline**
- ⌘ **Major Processes**

Background



- ⌘ **Directorate/EG&G QA Team – after new FRA contract**
- ⌘ **Quality Development Team (QDT) – beginning of FY08 (Irwin Gains/Bakul Banerjee from CD)**
- ⌘ **QDT produced 2 documents:**
 - ☒ **Integrated Quality Assurance (IQA, formerly FIQM) – Approved by DOE Chicago Office 11/7/08**
 - ☒ **Graded Approach Procedure for Quality Assurance (not yet approved)**
 - ☒ **QDT ceased to exist – 4/21/08**
- ⌘ **Quality Assurance Representative (QARs) for D/S/C assigned & training (1.5 training days/week) began – 10/20/08**
- ⌘ **More: <http://www.fnal.gov/directorate/OQBP/Index.htm>**

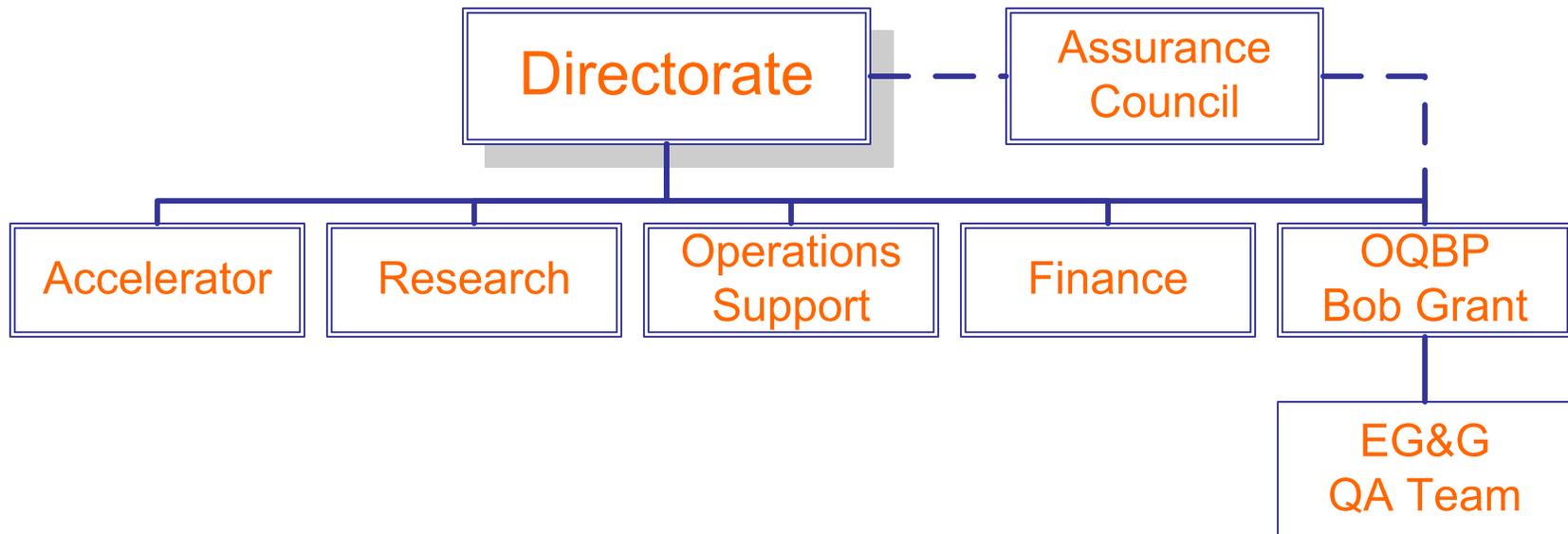
QARs & QAEs



- ⌘ Bakul Banerjee - QAR CD
- ⌘ Frank Cesarano - QAR BSS
- ⌘ Jeff Cotton - QA Program Mgr
- ⌘ Nicole Gee – Extended QAR
WDRS
- ⌘ Tom Gehrke - QAE
- ⌘ Bob Grant - Director OQBP
- ⌘ Jed Heyes - QA Mgr/Team
Leader
- ⌘ Tom King - QAE
- ⌘ Kurt Mohr - QAE
- ⌘ Jim Rife - QAR TD
- ⌘ Don Rohde - QAR AD
- ⌘ Keith Schuh - QAR PPD
- ⌘ Ed Volkoun - Logistics Mgr
- ⌘ Rod Walton - QAR FESS
- ⌘ Jim Wollwert – Extended QAR
FI

Sponsors

Quality Program Organization



QA Team Responsibilities

- ⌘ Conduct major process identifications & “As Is” status
- ⌘ Create QA Implementation Baseline
- ⌘ Update Project Execution Plan: Plans, Schedules, Resource Requirements
- ⌘ Develop Implementation Documents & Process Maps
- ⌘ Map Existing QA Practices to Requirements
- ⌘ Identify work to be done to reach “To Be” Requirements from “As Is” Practices
- ⌘ Review and Update the Project Execution Plan for Implementation
 - ⌘ Plans, Schedules, Resource Requirements
 - ⌘ Constraint – **Sept 2009** DOE evaluates extent of implementation
- ⌘ Periodic Briefings – OQBP, AC, D/S Heads, Staff
- ⌘ Publish a Lab-Wide Plan for Formal Assessments

Standards & Documents



- ⌘ DOE O 414.1C Quality Assurance
- ⌘ ANSI/ASQ Z1.13 for research
- ⌘ DOE O 226.1A Contractor Assurance
- ⌘ DOE G 414.1-5 Corrective Action Guide
- ⌘ DOE G 414.1-3 S/CI Guide

- ⌘ Integrated Quality Assurance program (IQA)
- ⌘ Graded Approach Procedure
- ⌘ Fermilab Integrated Contractor Assurance Program (FICAP)
- ⌘ Fermilab Corrective Action Procedure, Forms
- ⌘ Suspect/Counterfeit Items Program

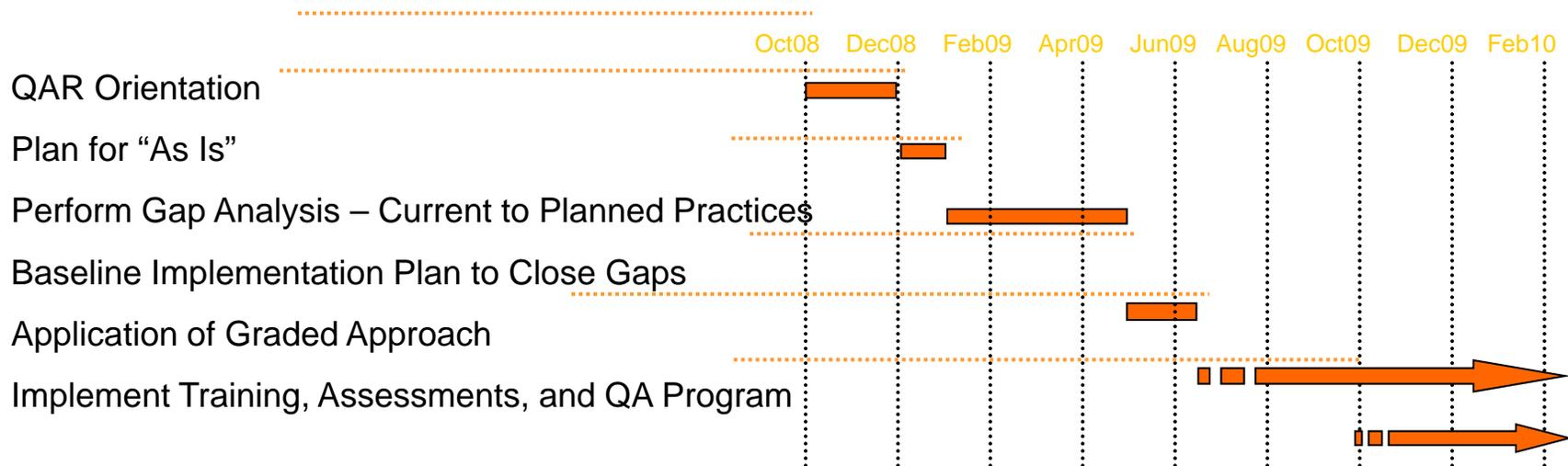
QA Criteria

- ⌘ Management
- ⌘ Criterion 1 Program
- ⌘ Criterion 2 Personnel Training and Qualifications
- ⌘ Criterion 3 Quality Improvement
- ⌘ Criterion 4 Documents and Records
- ⌘ Performance
- ⌘ Criterion 5 Work Processes
- ⌘ Criterion 6 Design
- ⌘ Criterion 7 Procurement
- ⌘ Criterion 8 Inspection and Acceptance Testing
- ⌘ Assessment
- ⌘ Criterion 9 Management Assessment
- ⌘ Criterion 10 Independent Assessment
- ⌘ Suspect/Counterfeit Items (S/CI)
- ⌘ Scientific Research (ANSI/ASQ Z1.13-1999)

Time Line

⌘ Key Dates:

- ☑ Nov 17-19 – Quality Audits for Improved Performance Course
- ☑ May 09 – Baseline Plan to Close Gaps
- ☑ Sept 09 – DOE QA Program Review
- ☑ Oct 09 – Internal Assessments



CD Major Processes Fishbone Diagram (Draft)



See the Fishbone diagram attached.

Definition of Major Fermilab Process – any process which directly and demonstrably contributes to the success of Fermilab’s core end products advancing science (beams, experiments, cyber-infrastructure, manufacturing) (Presented to the Assurance Council)

Things to keep in mind when identifying major processes (Graded Approach document)

- ⌘ Reasonable likelihood of a 3 month delay (or 2 months for projects with duration less than 9 months) of the laboratory schedule
- ⌘ Total project cost greater than \$500K
- ⌘ Reasonable likelihood of an occurrence, or repetitive occurrences, with cost impact greater than \$100K
- ⌘ Safety or environmental hazards, liabilities or risks greater than those generally accepted in an industrial environment
- ⌘ Reasonable likelihood of a significant reduction in the public trust or scientific reputation
- ⌘ Judgment of line management

“AS IS” Assessment



- ⌘ Starts on February 2, 2009; end sApril 30, 2009; done by QAE team
- ⌘ Before:
 - ☒ Create a list of hierarchical processes that exist within the division;
 - ☒ The list is prioritized by the management depending on what they think may use benefits of quality improvement . Graded approach is encouraged.
 - ☒ Only a sample of processes will be assessed
- ⌘ Some thoughts forsetting priorities:
 - ☒ Needs to be certified
 - ☒ Frequentlly reviewed or assessed
 - ☒ Critical infrastructure

“AS IS” Assessment: During



- ⌘ Identify possible controls in existence
- ⌘ Are the control fully implemented?
- ⌘ If not, are you planning for new controls or planning to implement the existing control
- ⌘ Get credits for best and noteworthy practices (e.g.ITIL)/ ISO 20000 Alignment

QAEs from OQBP will assist!

Paying Attention



- **Think about:**
 - **Inspection, acceptance & control of M&TE**
 - **Managing Task-specific Qualification & Training**
 - **Document & record control**
 - **Item control**
- **Possible Exclusions for Now**
 - **QA of software development ANSI/ASQ Z1.13 1999 standard for Scientific Research**
 - **QA for scientific research**

WHAT KEEPS YOU UP AT NIGHT?

