

Fermilab

MINERvA Working Group Meeting

June 30, 2005

10:00 – 11:00? AM

Snake Pit

Agenda

- 1) Discussion in Response to Grossman Questions / Items
 - a. Do we need a Justification on Mission Need Document and a NuSAG review?
 - b. Information on what is needed in the Acquisition Strategy Document. Excerpts from DOE M 413.3 pgs 5-8 through 5-14.
 - c. What are the specific NEPA and Approved Safety Documents (PSAD?, HA? and??) Do these, but with heavy reference to MINOS Near Detector documentation (Nancy is a excellent source here).
 - d. Rough PEP and perhaps the updated PMP.
- 2) Timelines for MINERvA as O(\$10M) project.
- 3) Status / thinking with regard to NSF Funding. (McFarland / Morfin)
- 4) Dr. Byon-Wagoner visit to Fermilab week of July 11 to discuss what is needed for potential Fermilab projects.
- 5) Potential for getting DOE MINERvA MIE funding under \$5M
- 6) Likely “requirements for ‘project’ well under \$5M.” See Feb 26, 2002 letter Monhart to Witherell “Implementation Guidance of DOE Order 413.3 for Accelerator Improvement and General Plant Projects.”
 - a. DOE Fermi Site Office (FSO) Quarterly Review
 - b. Conceptual Design Report and Technical Design Report
 - c. Project Execution Plan / Project Management Plan
 - d. Resource Loaded Schedule
 - e. Fermilab Project Management Group Meeting (PMG) including technical, cost and schedule reporting.
 - f. “Single” CD-0,1,2,3 Approval by DOE / FSO
- 7) Timelines for MINERvA at less than \$5M

DOE M 413.3-1 Excerpts

5.4 ACQUISITION STRATEGY

The mission need will have identified the range of acquisition alternatives. As the concept evolves and alternatives are investigated, an acquisition strategy is developed that will provide the conceptual basis of the plan a project follows in execution. A carefully developed and consistently executed strategy is one of the keys to a successful project. It is often a difficult and challenging task to blend the multitude of requirements for an acquisition into an acquisition strategy that also represents a consensus among the organizations that influence or are influenced by the project.

An acquisition strategy is a high-level business and technical management approach designed to achieve project objectives within specified resource constraints. It is the framework for planning, organizing, staffing, controlling, and leading a project. It provides a master schedule for activities essential for project success, and for formulating functional strategies and plans.

The strategy should be structured to achieve project stability by minimizing technical, schedule, and cost risks. Thus, the criteria of realism, stability, balance, flexibility, and managed risk should be used to guide the development and execution of an acquisition strategy and evaluate its effectiveness. The acquisition strategy must reflect the interrelationships and schedule of acquisition phases and events based on a logical sequence of demonstrated accomplishments, not on fiscal or calendar expediency.

The acquisition strategy conveys the Integrated Project Team's approach for the successful acquisition of the project, its intended outcomes, and rationale for that approach. The approach should address the market conditions, effective use of competition, and performance based contracting opportunities. Projects may require multiple contracts. The strategy should also address the management strategy that the program intends to use in order to integrate multiple contractor efforts. Approvals of mission needs and acquisition strategies do not constitute approvals required by the Office of Procurement and Assistance Management for specific contract clearance purposes, including contract acquisition plans.

Federal officials develop the acquisition strategy. The Integrated Project Team should review previous strategies for similar projects and discuss them with the key personnel involved to take advantage of lessons learned. Industry and laboratories may be consulted during the development of the acquisition strategy. However, care must be taken to avoid release or pre-procurement sensitive information that could be construed as giving existing contractors a competitive advantage.

DOE M 413.3-1 Excerpts (continued)

5.4.1 Acquisition Strategy Content

The strategy should be a logical extension from the approved mission need, narrowing the range of acquisition alternatives to the one or group best suited for the project. The strategy should be tailored based on the size, risk, and complexity of the project. When an element is not applicable, include a brief explanation. The strategy should focus on *quality* rather than *quantity*. For very large or complex projects, the acquisition strategy may include other supporting analysis or materials pertinent to the conclusion. The acquisition strategy should consider the following elements.

- The project title should be the same as was presented in the mission need if the title has changed, reference the prior title.
- Identify the primary office of responsibility for the project
- Describe how the project fits within the mission of the program office and why it is critical to the overall accomplishment of the DOE mission, including the benefits to be realized. List the mission need approval date, the approving official, and summarize any material changes from the approved mission need.
- Describe the key technical and performance parameters for the project, including the proposed location. For each new facility, show the square footage and address the elimination by transfer, sale, or demolition of excess buildings and facilities. Include important laws, agreements, or other factors which significantly influence the project.
- Identify the projected Total Project Cost, expressed as a range, including a funding profile that distributes the cost by fiscal year. The Total Project Cost consists preconstruction construction or implementation costs, costs, such as conceptual design, preliminary design, research and development, training and startup costs. Discuss lifecycle costs, including costs of dismantling and demolition at project completion. Identify the source of funds, including those from outside sources. Identify key milestones and events in the acquisition, development, and implementation process. Include the discussion of the total life-cycle costs and benefits consistent with the policies described in OMB A-94, Guidelines and Discount Rates for Benefit Cost Analysis of Federal Programs.
- Identify applicable conditions and factors that may affect the operational, design, or execution requirements, such as those regulated by the U.S. Environmental Protection Agency, State and other legal entities; economic factors, technological and political sensitivities and conditions should be discussed. For example, discuss the applicability of and expected milestones for the environmental assessment or environmental impact statement, and the proposed resolution of any environmental related requirements that affect the project.

DOE M 413.3-1 Excerpts (continued)

- Identify the major acquisition, management, technical, cost, and schedule risks and how handling the risks will influence the strategy. While external risks, which originate from factors usually outside the control of the project and often associated with those requirements and constraints that define the project limits, should be discussed, the main emphasis should be on the internal risks over which the project has more direct control. They result from decisions made within the program or project office that affect cost, schedule, performance, and technical approaches to be used when the acquisition strategy is developed or modified.
- Discuss the approach to the acquisition, including managing and executing the project. Identify the acquisition alternatives and site locations. The strategy should evolve from the possible alternatives that focus on the plan best suited for satisfying the mission need in the most effective, economical, and timely manner. The program should consider each alternative course of action across the following key discriminators which may influence the selected strategy: cost, schedule, risks, technology requirements, interfaces and integration requirements, safeguards and security, location and site conditions, legal and regulatory considerations, significant environmental, safety, and health requirements, stakeholder issues, government furnished property, services, and information. For example, each alternative course of action should include the potential use of similar capabilities at other sites, modification or renovation of existing facilities, or doing nothing. Each alternative should also include contract alternatives, including the use of a prime contractor, integrating, or multiple contractors and the rationale for the recommended alternative.
- Discuss the methods of competition that will be sought, promoted, and sustained throughout the course of the project. If full and open competition is not contemplated, summarize the decision why this is appropriate. If an existing prime contract will be used, discuss the rationale for this approach. Describe each major contract contemplated. Discuss the contract type selected (e.g., fixed-price, cost-plus), including incentive and fee arrangements. Identify the use of special acquisition procedures (e.g., design-build or design-negotiate-build) and demonstrations that may be used to reduce risk. Discuss whether sealed bidding or best value processes will be used and why. Describe the planned incentive approach and how performance incentives for each major acquisition (e.g., objective award fee, incentive fee, performance-based contract, cost savings/cost reduction) will be used to promote performance. The major types of contracts and incentives proposed should be based on consideration of major risks.

DOE M 413.3-1 Excerpts (continued)

- Discuss the approach to managing the project. Identify the Integrated Project Team, organization structure and staffing skills. Describe the approach to performance evaluation, verification, and validation. Describe the relationships and interfaces between organizational elements. Include descriptions of project management and control systems that will be used to successfully execute the project.
- Interfaces with other DOE organizations, National Laboratories, or outside stakeholders should be discussed. When a site is subject to the requirements of DOE Acquisition Letter 2000-08 of August 18, 2000, requiring a Site Utilization and Management Plan, the project should be consistent with that site plan. Discuss the impact of this project and its associated contracts and how coordination among programs/projects at the site has been considered for the attainment of the site's mission. Discuss what management system will be used by the Government to monitor the contractor's effort (e.g., Earned Value Management System). Discuss Federal staffing, skills, and structure that will be required to manage the project.

5.4.2 Submission of the Acquisition Strategy

All acquisition strategies for Critical Decision-1 are preferred in electronic format (MSWord) and sent to ESAAB.SECRETARIAT@hq.doe.gov at least 3 weeks prior to any scheduled decisional briefings. The acquisition strategy will be staffed through OECM (ME-90) for the OMBE recommendation. OECM will provide a recommendation memo to the appropriate Program Secretarial Officer or Deputy Administrator. Approval of the strategy does not imply approval of Critical Decision-1. Since the strategy is based on facts and circumstances existing at the time of development, it may be changed when additional information becomes available or conditions change. Change must make good business sense and be justified and documented. Material changes to the acquisition strategy, such as changes in contract type, competition or major milestones, must be documented and approved at the same approval level as the original.

DOE M 413.3-1 Excerpts (continued)

5.4.3 Acquisition Strategy Format

Project Title:

Lead Program Office:

Total Project Cost (TPC) Range:

1. Desired Outcome and Requirements Definition

CD – 0 Approval Date, Approving Official and Any Material Changes

Summary Project Description and Scope

Performance Parameters Required to Obtain Desired Outcome

2. Cost and Schedule Range

Total Project Cost Range

Funding Profile

Key Milestones and Events

3. Major Applicable Conditions

Environmental, Regulatory and Political

Sensitivities Others

DOE M 413.3-1 Excerpts (continued)

4. Risk and Alternatives (Technical, Location, & Acquisition Approach)

The major technical, cost, and schedule risks identified and analyzed to-date should be summarized along with what efforts are planned or underway to manage, monitor, reduce or eliminate risks and the consequences of failure to achieve goals.

- Cost and Schedule Range
- Funding Range and Budget Management
- Technology and Engineering
- Interfaces and Integration Requirements
- Safeguards and Security
- Location and Site Conditions
- Legal and Regulatory
- Environmental, Safety and Health
- Stakeholder Issues

5. Business and Acquisition Approach

Acquisition and Contract Types Incentive Approach/Linkage to Performance Metrics Competition

6. Management Structure and Approach

Identify IPT, Organization Structure and Staffing Skills

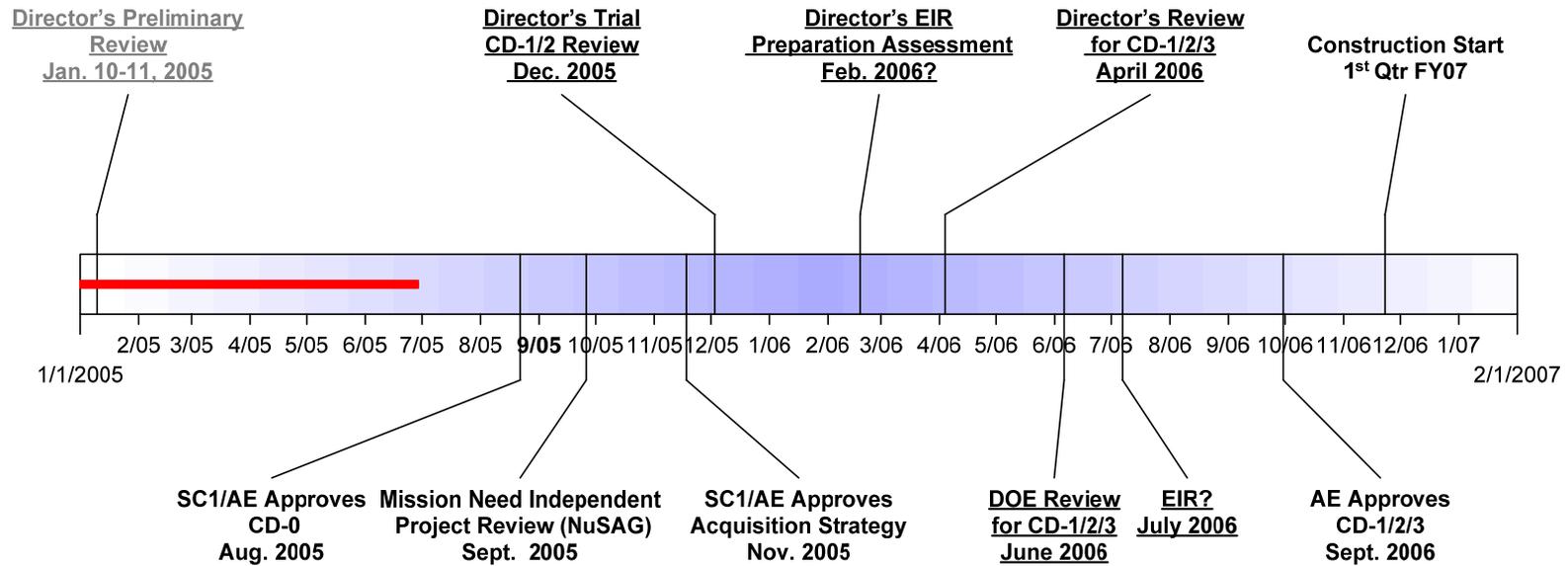
Approach to Performance Evaluation and Validation (i.e., EVMS)

Interdependencies and Interfaces



DRAFT MINERvA Project Timeline for Critical Decisions & Reviews

Updated 08-Jun-05



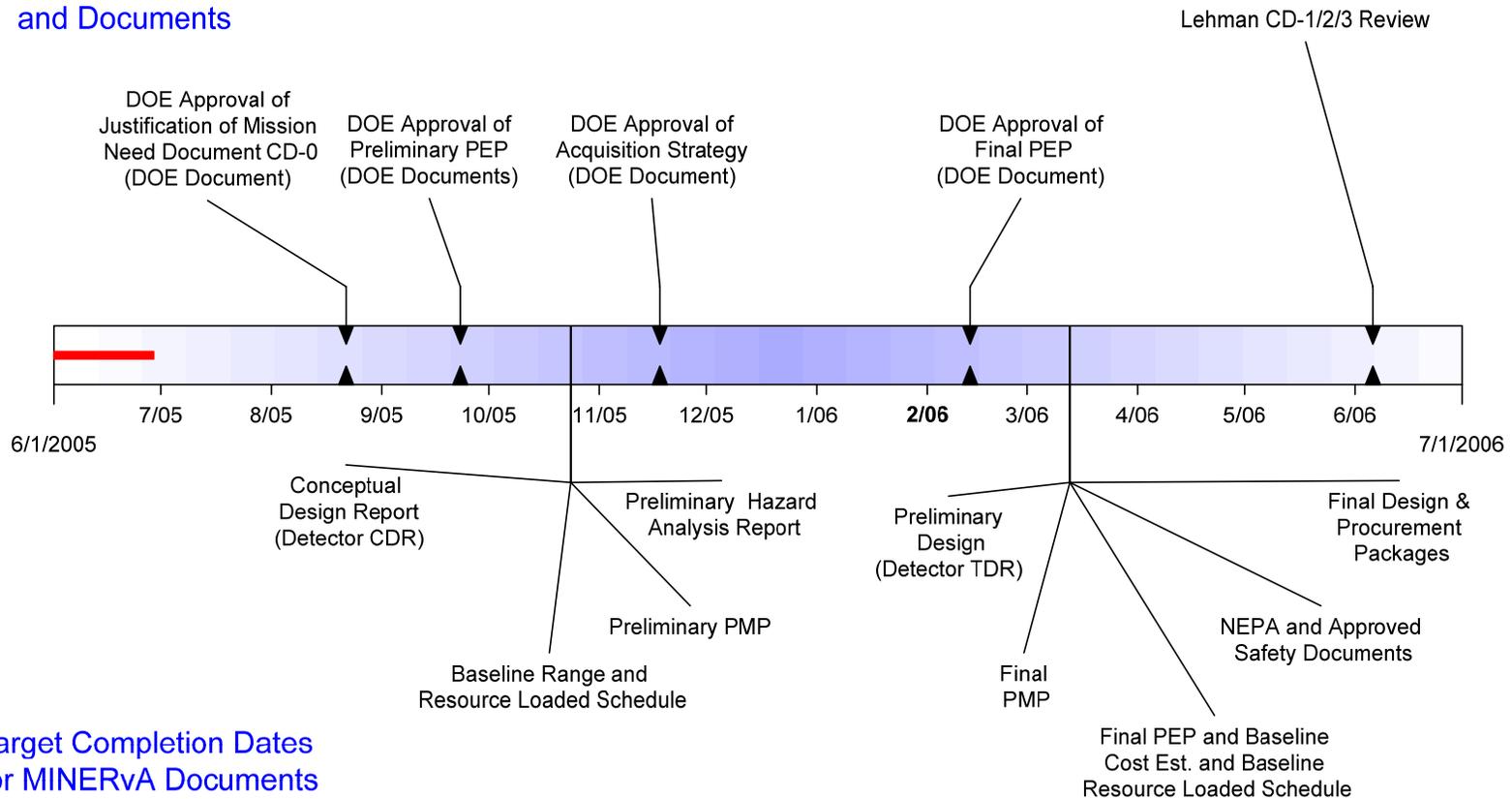


MINERvA Project

Draft Critical Design Prerequisites

Updated 08-Jun-05

Estimated Need by Dates
for DOE Approvals
and Documents



Target Completion Dates
for MINERvA Documents

Excerpt from Fy2006 HEP Budget

Major Items of Equipment (TEC \$2 million or greater)

(dollars in thousands)

	Total Project Cost (TPC)	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2004	FY 2005	FY 2006	Acceptance Date
Large Hadron Collider							
— Machine	110,000	90,252	82,702	5,130	2,420	0	FY 2005
Large Hadron Collider							
— ATLAS Detector.....	102,950 ^a	54,099	44,532	4,710	2,413	1,598	FY 2008
Large Hadron Collider							
— CMS Detector.....	147,060 ^b	71,789	58,099	6,030	3,510	2,900	FY 2008
MINOS	60,272	44,510	41,960	2,000	550	0	FY 2005
GLAST/LAT.....	42,000 ^{c,d}	42,000 ^d	25,679	7,900	8,421	0	FY 2006
Cryogenic Dark Matter Search (CDMS)	9,090 ^e	4,908	4,358	550	0	0	FY 2004
Auger.....	4,730 ^f	3,230	2,230	1,000	0	0	FY 2004
Run IIb D-Zero Detector	12,502 ^g	12,502	6,252	2,542	3,708	0	FY 2007
Run IIb CDF Detector ..	10,374 ^h	10,374	6,969	1,673	1,732	0	FY 2007
VERITAS	7,399 ⁱ	4,799	0	1,600	2,050	1,149	FY 2006
BaBar Instrumented Flux Return (IFR) Upgrade	4,900	4,900	0	3,000	1,200	700	FY 2006
BTeV	6,750	6,750 ^j	0	0	6,750	0	N/A
Total, Major Items of Equipment.....				36,135	32,754	6,347	

^a The total U.S. contribution (TPC) for this project is \$163,750,000, including \$60,800,000 from NSF.

^b The total U.S. contribution (TPC) for this project is \$167,290,000, including \$20,200,000 from NSF.

^c The total TPC for this project is \$136,600,000, including \$93,400,000 from NASA and \$1,200,000 from Japan.

^d We expect a rebaselining of the GLAST/LAT project to be completed during the second quarter of FY 2005, possibly resulting in a new TEC and TPC for the DOE contribution of no more than \$45,000,000. This change will not affect the scheduled FY 2006 completion date for DOE's portion of the GLAST project.

^e The total TPC for this project is \$18,390,000 including \$9,300,000 from NSF.

^f The total U.S. contribution (TPC) for this project is \$8,680,000 including \$3,930,000 from NSF.

^g The total TPC for this project is \$19,926,000, including \$3,068,000 from NSF and \$4,356,000 from foreign partners.

^h The total TPC for this project is \$13,545,000 including \$3,171,000 from foreign partners.

ⁱ The total TPC for this project is \$17,534,000 including \$7,333,000 from NSF, \$2,000,000 from the Smithsonian Institution, and \$802,000 from foreign partners.

^j The TEC for this project has been decreased to \$6,750,000 from the range of estimate \$187,000,000 to \$221,000,000 reflecting the termination of the project after the engineering design phase in FY 2005.

OFFICE OF SCIENCE PROJECT DECISION/APPROVAL MATRIX (Dated 11/1/04)

TOTAL PROJECT COST (TPC)		\$400M or more	\$100M to less than \$400	\$5M to less than \$100M	\$5M to less than \$20M If delegation is provided	Less than \$5M	
		DECISION/APPROVAL					
Prior to CD-0, Mission Need Statement		Reviewed by OMBE-ME-20 and approved by SC-1				N/A	
Prior to CD-1, Acquisition Strategy		Reviewed by OMBE-ME-90 and approved by SC-1				N/A	
CRITICAL DECISIONS	CD-0 --Approve Mission Need	S-2	SC-1	SC-1	SC-1	N/A or FPD	
	CD-1--Approve Alternative Selection and Cost Range	S-2	SC-1	SC AD	PM or SOM if delegated	N/A or FPD	
	CD-2 --Approve Performance Baseline	S-2	SC-1	SC AD	PM or SOM if delegated	N/A or FPD	
	CD-3 --Approve Start of Construction	S-2	SC-1	SC AD	PM or SOM if delegated	N/A or FPD	
	CD-4 --Approve Start of Operation	S-2	SC-1	SC AD	PM or SOM if delegated	N/A or FPD	
DEVIATIONS		If performance, scope, schedule, or cost baseline cannot be met, the S-2 must be notified & a determination made to terminate the project or establish a new performance baseline. See Performance Baseline Change below for appropriate approval authority.					
CHANGE CONTROL	Performance Baseline Change		S-2 approval is needed if change in Performance Baseline of ≥6 months or ≥\$25M or 25% of TEC/TPC or change in scope not in conformance with the Project Data Sheet; or US approval if preceding threshold is not exceeded; or PSO approval if delegated.			N/A	
	Routine Project Changes	Program	SC-1	SC-1	SC AD	PM or SOM if delegated	N/A
		Project	PM, SOM or FPD (Optional)	PM, SOM or FPD (Optional)	PM, SOM or FPD (Optional)	PM, SOM or FPD (Optional)	PM, SOM or FPD (Optional)
		Contractor	Contractor	Contractor	Contractor	Contractor	Contractor
PEP --Project Execution Plan Approval		SC-1	SC-1	SC AD	PM or SOM if delegated	N/A	
EIS --Environmental Impact Statement ROD --Record of Decision/Site Selection		S-2	S-2	S-2	S-2	S-2	
EIR --External Independent Review, IPR --Independent Project Review, or ORR --Operational Readiness Review		EIR Prior to CD-2 & CD-3 IPR Prior to CD-0 ORR Prior to CD-4	EIR Prior to CD-2 IPR Prior to CD-3 ORR Prior to CD-4	EIR Prior to CD-2 IPR Prior to CD-3 ORR Prior to CD-4	EIR Prior to CD-2 IPR Prior to CD-3 ORR Prior to CD-4	N/A	
PARS Reporting (EVMS for Projects >\$20 M)		Monthly Project Status After CD-0 and Monthly Project Performance After CD-2					
QPPR --Quarterly Project Performance Rev.		Quarterly After CD-0					
FPD --Federal Project Director		Ensure that the FPDs are certified at appropriate levels according to the requirements of the DOE O 361.1, Attachment 4.					

AD=Associate Director; EIR=External Independent Review Conducted by OECM; FPD=Federal Project Director; IPR =Independent Project Review Conducted by SC; ORR=Operational Readiness Review Conducted by SC; PARS= Project Analysis and Reporting System; PM=HQ Office of Science Program Manager; S-2=Deputy Secretary; SC=Office of Science; SC-1=Director, Office of Science; SOM=Site Office Manager; US=Under Secretary

DOE Site Office Guidance



Department of Energy

Fermi Area Office
Post Office Box 2000
Batavia, Illinois 60510

FEB 26 2002

DIRECTOR'S OFFICE
FEB 27 2002

Dr. Michael Witherell
Director
Fermilab
P. O. Box 500
Batavia, Illinois 60510

Dear Dr. Witherell:

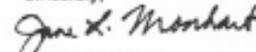
SUBJECT: IMPLEMENTATION GUIDANCE OF DOE ORDER 413.3 FOR ACCELERATOR
IMPROVEMENT AND GENERAL PLANT PROJECTS

A few changes will need to be implemented to bring the AIP and GPP program in line with the requirements of DOE Order 413.3.

- DOE is required to perform quarterly reviews of all projects. Fermilab will need to provide quarterly AIP and GPP status reports to aid in this review process. The reports should be of appropriate detail to provide cost, schedule, and milestone status. The tailored approach should be used based primarily on project size and risk.
- In most cases, CD-0, 1, 2, and 3 will be approved based on the information submitted in the initial AIP or GPP construction directive, and CD-4 likewise, will generally be approved based on the information provided with the final construction directive. Baseline changes will continue to be handled via the construction directive process. Fermilab will need to provide appropriate material with or within the construction directives to aid in these CD and baseline change determinations.
- A Project Execution Plan (PEP) is required for each project. Fermilab will need to either a) develop and submit for my approval as Acquisition Executive a PEP for the generic aspects of AIPs and one for GPPs, or b) prepare individual PEPs for each AIP and GPP to be submitted with the corresponding initial construction directive. In the case of option a, project specific PEP elements will need to be included in the initial construction directive for each project.

These items should be implemented by June 30, 2002. Paul Philp (ext. 4481) and Steve Webster (ext. 2130) are available to assist with these efforts.

Sincerely,


Jane L. Monhart
Area Manager

cc: K. Stanfield
J. Brown
S. Holmes
E. Temple
C. Trimby

A component of the Chicago Operations Office

30-Jun-05

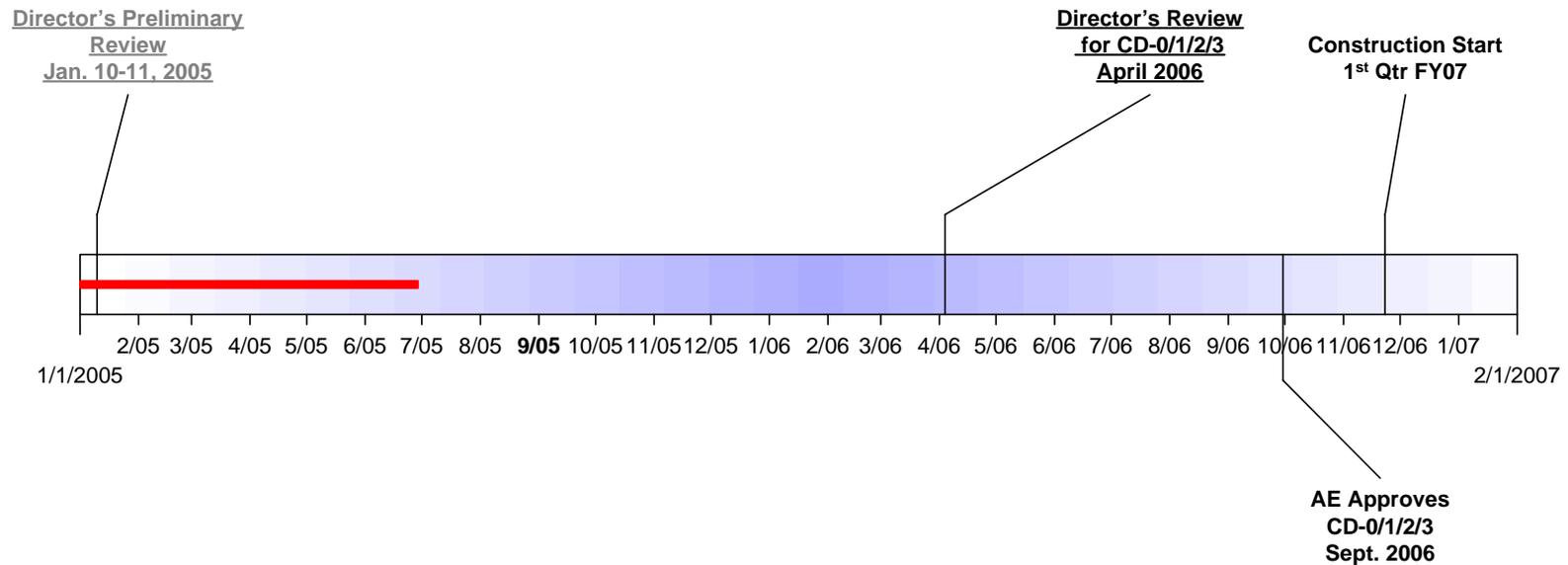
MINERvA Working Group Meeting

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DRAFT MINERvA Project Timeline for Critical Decisions & Reviews if TEC is <5Mil

Updated 29-Jun-05





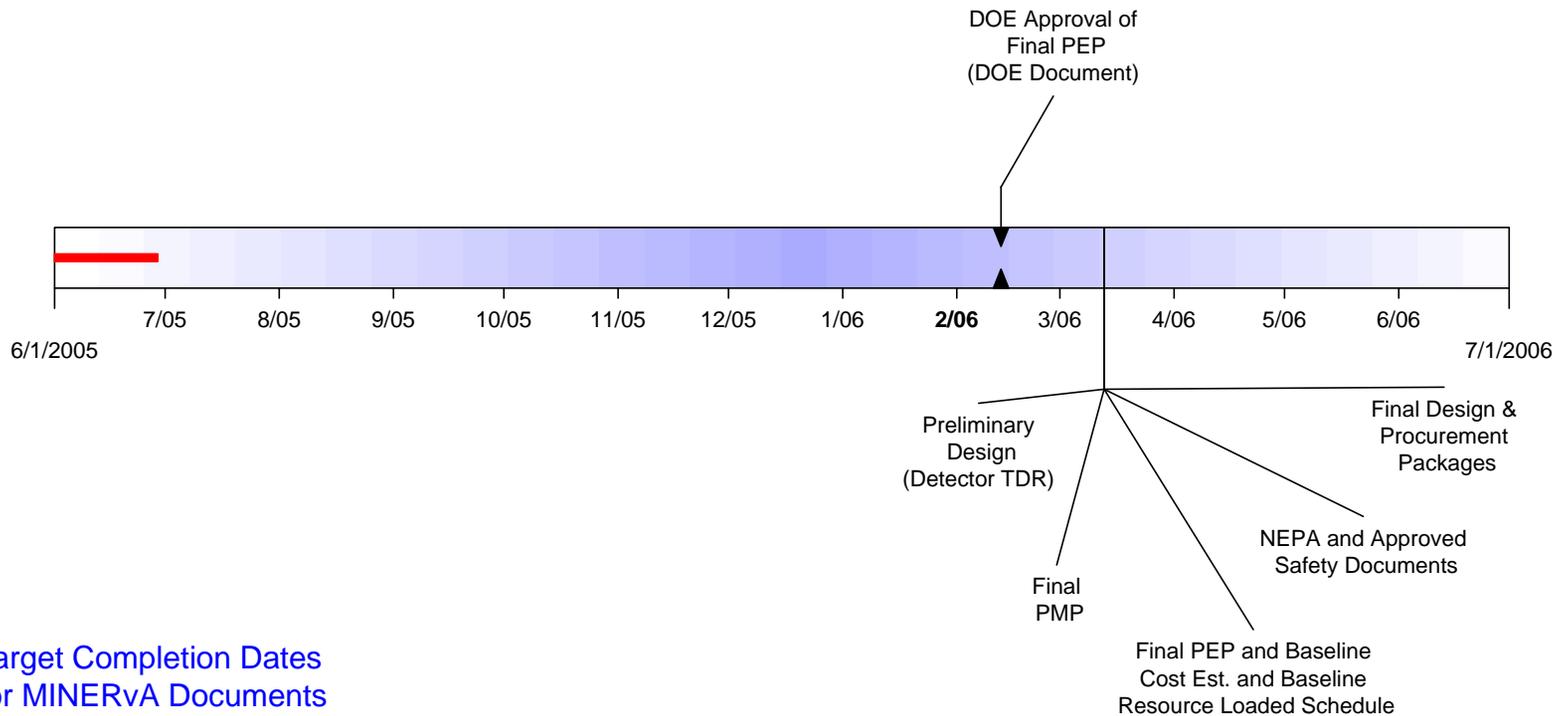
MINERvA Project

Draft Critical Design Prerequisites if TEC is <5Mil



Updated 29-Jun-05

Estimated Need by Dates
for DOE Approvals
and Documents



Target Completion Dates
for MINERvA Documents