

First Executive Session
NOvA
Director's Preliminary Review

July 18-20, 2005
L. Edward Temple, Jr.

Agenda for Exec Session

- Charge to Reviewers
- DOE O 413.3 Decision Authority Threshold Chart
- Review Agenda
- Report Outline and Reviewer Assignments
- Breakout Reviewer Assignments
- Reporting Out & Report Structure
 - Findings, Comments, and Recommendations
- Cost / Contingency Table
- Discussion

Charge

Will cover the Technical / Cost / Schedule / Management aspects of the “project” to the extent plausible or sensible. It is recognized that this review is being conducted at a very early stage of the NOvA project, thus it is a “preliminary” review and material presented may not (will likely not) be developed to the level of sophistication or detail of a more mature project.

Technical

- Are the physics requirements stated? The physics justification has been reviewed and Stage 1 approval was recommended by the Fermilab Physics Advisory Committee (PAC).
- Have these physics requirements been translated into technical performance requirements / specifications?
- Can the design be built? Does the design meet the meet the technical specifications? Is it a reasonable design?

Cost

- Has a Work Breakdown Structure (WBS) been developed or other listing of cost elements been prepared?
- Do the cost estimates for each WBS (or cost) element have a sound basis and are they reasonable?

Charge (Continued)

Schedule

- Is there a schedule for the project?
- If, so are the activity durations reasonable for the assumed resources?
- Has the schedule been “resource loaded?”

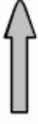
Management

- Is there an appropriate management organizational structure in place or proposed to accomplish the design and construction?
- Have responsibilities been assigned or have they been proposed?
- Are there adequate staffing resources available or planned for this effort?
- Is there a funding plan available or proposed to meet the resource requirements to realize the detector?

The Director’s Review Committee is asked to present findings, comments, and recommendations in a closeout session with the NOvA Collaboration and Fermilab Management at the end of the review and in a written report soon thereafter.

DECISION AUTHORITY THRESHOLDS

**DOE O 413.3
Decision Authority
Thresholds Chart**

Project Type	Critical Decision Authority	Typical Project Requirements	
Major System Projects	Secretarial Acquisition Executive	<ul style="list-style-type: none"> Quarterly review by PSO Performance Baseline External Independent Review (EIR) Execution Readiness EIR Energy System Acquisition Advisory Board Earned Value Management System reporting required 	
		 \$400M	
Other Projects	Program Secretarial Officer (Acquisition Executive)	<ul style="list-style-type: none"> Quarterly review by PSO Performance Baseline EIR Execution Readiness Independent Project Review Energy System Acquisition Advisory Board-equivalent Earned Value Management System reporting required 	Acquisition Executive Delegation Allowed
		 \$100M	To a Senior Executive Service program manager or operations/field office manager
		<ul style="list-style-type: none"> Quarterly review by Program Secretarial Officer or delegate Performance Baseline EIR Execution Readiness Independent Project Review Energy System Acquisition Advisory Board-equivalent Earned Value Management System reporting required 	
		 \$20M	
		<ul style="list-style-type: none"> Quarterly review by Program Secretarial Officer or delegate Performance Baseline EIR Execution Readiness Independent Project Review Energy System Acquisition Advisory Board-equivalent Earned Value Management System reporting <u>NOT</u> required 	To a Senior Executive Service direct reporting subordinate of the operations/field office manager
		 \$5M	

Agenda

Monday, July 18

8:00 – 8:30 AM	Executive Session (Comitium, WH2SE)	Ed Temple
8:30 – 9:30 AM	Physics Justification (One West, WH1W)	Gary Feldman
9:30 – 10:30 AM	Project Overview (One West)	John Cooper
10:30 – 10:45 AM	BREAK (Outside One West)	
10:45 – 11:45 AM	Project Overview Continued (One West)	
11:45 – 12:45 PM	LUNCH (WH2 Crossover)	
12:45 – 1:30 PM	Site Details, Ash River and Orr-Buyck (One West)	Marvin Marshak
1:30 – 2:15 PM	Building and Outfitting (One West)	Steve Dixon
2:15 – 3:15 PM	A “Raw” Materials Session (One West)	
2:15 – 2:30	Scintillator (One West)	Stuart Mufson
2:30 – 2:45	Fiber (One West)	Leon Mualem
2:45 – 3:00	Extrusions & Reflectivity (One West)	Kenneth Heller
3:00 – 3:15	Extrusions & Structural properties (One West)	Richard Talaga
3:15 – 3:30 PM	BREAK (Outside One West)	
3:30 – 4:30 PM	NOvA Detector Overview (One West)	Ronald Ray
4:30 – 6:00 PM	Executive Session (Comitium, WH2SE)	

Agenda (continued)

Tuesday, July 19

8:00 – 8:30 AM	Schedule Presentation (One West)	Bill Freeman
8:30 – 9:15 AM	Cost Estimate Presentation (One West)	Suzanne Pasek
9:15 – 10:15 PM	Concentrated Session on Cost - <u>discussion</u> with full committee and full NOvA group (One West)	
10:15 – 10:30 AM	BREAK (Outside Comitium, WH2SE)	
10:30 – 12:00 PM	Breakout Sessions	
	<u>Active Detector</u> - including Near Detector, Installation, Raw Materials (Snakepit, WH2NE)	
	10 min. Details on light collection	Kenneth Heller
	20 min. Details on Far assembly	David Pushka
	15 min. Details on Near Detector	Ronald Ray or David Pushka
	<u>Electronics, Trigger and DAQ</u> (AM Meetings in Racetrack, WH7XO - PM Meetings in Blackhole, WH2NE)	
	20 min. Details on APDs	Roger Rusack (video)
	10 min. Details on ASICs	Roger Rusack (video)
	10 min. Details on Trigger	Leon Mualem
	10 min. Ongoing DAQ discussions	Leon Mualem

Agenda (continued)

Building & Sites, ES&H (One East, WH1NE)

10 min. EAW process and status

Steve Dixon

Management, Cost, and Schedule (Comitium, WH2SE)

10 min. NOvA Collaboration org

Gary Feldman

5 min. Planned division of work among
Collaborating institutions

John Cooper

12:00 – 1:00 PM

LUNCH (WH2 Crossover)

1:00 – 2:30 PM

Breakout Sessions continue as needed, begin
writing

2:30 – 4:00 PM

Executive Session (Comitium, WH2SE)

4:00 – 6:00 PM

Report Writing (Comitium, WH2SE)

Wednesday, July 20

9:00 – 1:00 PM

Closeout Dry Run with working lunch (Comitium, WH2SE)

1:00 – 2:00 PM

Closeout (One West)

Report Outline and Reviewer Assignments

Executive Summary	<u>Ed Temple</u>
1.0 Introduction	<u>Dean Hoffer</u>
2.0 Detector	<u>Linda Stutte, Giorgio Apollinari, Rich Stanek</u>
3.0 Building & Outfitting	<u>Karen Hellman, Randy Ortgiesen</u>
4.0 Electronics, Trigger DAQ	<u>Peter Wilson, Stu Fuess</u>
5.0 Assembly and Installation	<u>Dmitri Denisov, Pat Lukens</u>
6.0 Project Management	<u>Mike Lindgren, Pat Lukens</u>
7.0 Cost and Schedule	<u>Dean Hoffer, Rich Stanek, Ed Temple</u>

Report Outline and Reviewer Assignments

(continued)

8.0 Charge Questions	
8.1 Are the physics requirements stated?	<u>Giorgio Apollinari</u>
8.2 Have these physics requirements been translated into technical performance requirements / specifications?	
8.3 Can the design be built? Does the design meet the technical specifications? Is it a reasonable design?	
8.4 Has a Work Breakdown Structure (WBS) been developed or other listing of cost elements been prepared?	<u>Rich Stanek</u>
8.5 Do the cost estimates for each WBS (or cost) element have a sound basis and are they reasonable?	
8.6 Is there a schedule for the project?	
8.7 If so, are the activity durations reasonable for the assumed resources?	
8.8 Has the schedule been “resource loaded?”	<u>Mike Lindgren</u>
8.9 Is there an appropriate management organizational structure in place or proposed to accomplish the design and construction?	
8.10 Have responsibilities been assigned or have they been proposed?	
8.11 Are there adequate staffing resources available or planned for this effort?	
8.12 Is there a funding plan available or proposed to meet the resource requirements to realize the detector?	

* Note underlined names are the primary writer.

Breakout Reviewer Assignments

Active Detector (Snake Pit - WH2NE)	Linda Stutte, Giorgio Apollinari, Rich Stanek, (Pat Lukens), Dmitri Denisov
Electronics, Trigger DAQ (AM in Racetrack – WH7XO, PM in Black Hole – WH2NE)	Peter Wilson, Stu Fuess
Building & Sites, ES&H (One East - WH1NE)	Karen Hellman, Randy Ortgiesen
Management, Cost and Schedule (Comitium – WH2SE)	Mike Lindgren, Pat Lukens, Dean Hoffer, (Rich Stanek), Ed Temple

* Note () indicates individuals have dual assignments.

Reporting Out & Report Structure

- Review findings, assessments, and recommendations should be presented in writing at a closeout with the Collaborations and Fermilab management.
- Written with
 - Findings
 - Comments and
 - Recommendations

Findings, Comments, and Recommendations

- Findings
 - Findings are statements of fact that summarize noteworthy information presented during the review.
- Comments
 - Comments are judgment statements about the facts presented during the review. The reviewers' comments are based on their experiences and expertise.
 - The comments are to be evaluated by the project team and actions taken as deemed appropriate.
- Recommendations
 - Recommendations are statements of actions that should be addressed by the project team.
 - A response to the recommendation is expected and that the actions taken would be reported on during future reviews.

Reviewer Write-ups

- Write-ups are to be sent to Dean Hoffer at dhoffer@fnal.gov prior to 8:30 AM on Wednesday, July 20 for the Closeout Dry Run

Cost & Contingency

WBS	Description	Base Cost (K\$)	Overhead (K\$)	Contingency (K\$)	% Contingency	Sub-total (K\$)
1.1	Far Detector Site	28,856	80	11,669	40%	40,605
1.2	Liquid Scintillator	38,173	1,145	9,830	25%	49,148
1.3	Wavelength Shifting Fiber	13,354	401	4,127	30%	17,882
1.4	PVC Extrusions	18,508	159	5,600	30%	24,266
1.5	Detector	24,458	5,431	12,221	41%	42,110
1.6	Project Management	2,741	796	884	25%	4,422
	Additional contingency required to reach 40% total contingency			9,311		
	Total	126,090	8,012	53,641	40%	187,744

WBS	Description	Base Cost (K\$)	Overhead (K\$)	Contingency (K\$)	% Contingency	Sub-total (K\$)
1.1	Far Detector Site					
1.2	Liquid Scintillator					
1.3	Wavelength Shifting Fiber					
1.4	PVC Extrusions					
1.5	Detector					
1.6	Project Management					
	Total					

Discussion

- Questions and Answers