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SURVEY

DECam Preparations for Critical Decision 2/3a

- Preparations for CD2
- Preparations for CD3a
- DECam MOUs



Preparations for CD-2

- Actions to complete by CD-2 (Management)
 - Responses to review comments/recs from Dir CD1 (35 done; remainder appropriate to answer at CD2) & NSF/DOE CD1 review (58 recs)
 - Baseline cost and schedule
 - After statusing the schedule for May, one last chance for L2 managers to review schedule for gaps or discrepancies with current plan.
 - Switch to project funds August 1. Change Control procedures apply.
- Documents Needed for CD-2
 - Technical Design Report (TDR) [also called Preliminary Design Report]
 - Project Execution Plan (updated from PPEP at CD-1)
 - Hazard Analysis (updated from PHA at CD-1)
 - Preliminary Safety Assessment Document (PSAD)
Will work with PPD ES&H to write this
 - Lab requirements: Project Management Plan, Quality Assurance Plan, Configuration Management Plan, Risk Management Plan, Value Management Plan (drafts exist for all of these now)



Plan to Create the TDR

- Requirements and Specifications for each subsystem drive the technical design.
- We will create a Requirements and Specifications Document for each subsystem, defined by L2 managers. Each RSD will contain:
 - Description of the subsystem
 - Requirements and specifications
 - List of interfaces (mechanical, electrical, software)
[separate Interface Control Document (ICD) if needed]
 - Testing procedures if applicable
 - References to appropriate documentation (e.g. drawings)
 - Change notification and signoff list
- These documents will serve as the basis for the TDR portion for that subsystem and will link to the interface control documentation, e.g. drawings (see DES docs 213 and 284)



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TDR/RSD Since the May Review

- Held meeting with Andy and Terri to go over RSD format and plans, another scheduled; Jean Slaughter has produced a new version of Doc 285
- Writing assignments for WBS 1.5 RSDs handed out by Andy; due July 31
- Working group formed for cooling system documentation (Finley, Cease, Schmidt). Draft in progress.
- Better documentation of CCD Yield Procedure – talks have been given, more scheduled, will progress to written documentation



Preparations for CD3a

- Finalize list of items for which to request CD3a approval
 - CCD production
 - Others?
- For CCD production, need the yield story to be complete (work ongoing as mentioned earlier)
- For cooling system, alignment and focus system, and FEE, activity and workshops this summer will focus on the choices necessary; assess at ~ time of collaboration meeting which systems have completed R&D and can be on the CD3a list
- New L2 managers meeting will focus on schedule issues as part of this process



DECam MOU Status

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DECam MOU Status					
Institution	Prior Draft	Sent Task Email	Response to Task Email	New Draft	Signed
Argonne	N	Y	Y		
Brazil	N	n/a			
Chicago	Y	N			
FNAL CD	N	n/a			
UIUC	Y	Y	N		
LBNL	Y	N			
Michigan	Y	Y	Y		
NOAO	(not DECam - DES responsibility)				
Pennsylvania	N	n/a			
Ohio State	N	Y	N		
Spain - DES	N	N			
UK - DES	N	N			



CD2 Documentation Status (Part 1)

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Document	Token Holder	Vers in DocDB	Expected Post Date	Post Date	Posted Version	Complete	Comments
Conceptual Design Report (CDR)	Wyatt	V1.8.0 (Doc 78)				Final	
Technical Design Report	Wyatt						RSD's to form the basis of this document; Writing assignments have begun
Science Requirements Document	Jim, Tim	V6.3 (Doc 20)			V6.3		Request from May review to split into 2 documents by August 1 - Project Scientists, input from Science Working Groups
Responses to 2004 Temple Review	Brenna					Final	Complete and frozen.
Responses to 2006 Temple Review	Wyatt						Needs to be finished
Responses to 2007 Joint CD1 Review (DECam portion)	Brenna						
Acquisition Strategy - DOE Document	Paul						Any post review changes required?
Project Execution Plan (PEP) - DOE Document	Paul						Any post review changes required?



CD2 Documentation Status (Part 2)

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Document	Token Holder	Vers in DocDB	Expected Post Date	Post Date	Posted Version	Complete	Comments
Hazard Analysis Report	Wyatt	V1.1					Will start from PHA
Project Management Plan (PMP)	Wyatt	V1.9.0 (Doc 83)					Will start from PPMP
Baseline for Cost, Schedule and Scope (Resource Loaded Schedule (RLS), Bases)	Brenna	Doc 208 v1					Freeze before Aug 1
Draft Risk Management Plan	Wyatt	V1.1 (Doc 80)					
Draft Configuration Management	Doug	V1.1 (Doc 82)					
Initial Value Management Document	Wyatt	V1.0 (Doc 81)					
Quality Assurance Plan	Wyatt						



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Extra Slides



Documentation Requirements for CD1

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- **Conceptual Design Report**  **DES Doc 478**
Updated since July Director's Review with review recommendations, progress in R&D program, improved science forecasts, L2 manager inputs for risk analysis and schedule, better understanding of funding profile
- **Preliminary Hazard Analysis**  **DES Doc 489**
Small updates since July Director's Review: additions to list of hazards
- **Preliminary Project Execution Plan**  **DES Doc 486**
Updated with current cost and schedule range
- **Draft Acquisition Strategy**  **DES Doc 485**
Updated with current cost and schedule range, CCD acq plans



Additional Primary CD1 Documentation

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- Science and Technical Requirements DES Doc 20
These requirements feed into the conceptual design
- DECam Schedule DES Doc 471
This Microsoft Project schedule provides the base costs; the Lab's COBRA system is used for the burdening and escalation of costs.
- Preliminary Project Management Plan DES Doc 564
Describes how DECam is managed at Fermilab
- Final Report, July Director's CD1 Review
http://www.fnal.gov/directorate/OPMO/Projects/DES/DirRev/2006/07_25/FinalReportDES-DECam07-27-06.pdf
- Project Responses to July Review DES Doc 499



Change Control Thresholds: Technical and Cost

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- Level 4 : any change to the technical scope and any use of contingency funds must be approved by the DECam Project Manager
- Level 3 : Requires approval by the FNAL Associate Director of research
 - Any change that affects the technical performance or baseline, or ES&H requirements
 - Any cumulative use of DOE contingency > \$100K
- Level 2 :Requires Approval of the Federal Project Director:
 - Any cumulative use of DOE contingency > \$100K
- Level 1: Requires approval of the DOE Acquisition Executive
 - Any change in scope that affects the mission need requirements
 - Any increase in the DOE MIE baseline
- Level 0: Requires approval of DOE Deputy Secretary/Acquisition Exec
 - Increase > 25% in the DOE MIE baseline



Change Control: Schedule

Formal change control procedures will track technical, schedule, and cost changes in the project. Each change requires the preparation of a Project Change Request (PCR) form and approval depending on the size.

Milestone Definitions and Change Control thresholds:

- Level 4 Milestones are owned by the Level 2 managers. They define significant points in schedule – no contingency, no change control
- Level 3 Milestones are monitored by the Fermilab ADR & DECAM PM
Typically contain ~ 4 weeks of contingency.
 - A change of > 2 weeks triggers preparation of a PCR and requires approval of the DECAM PM
 - A change of > 3 months requires approval of the Fermilab ADR
- Level 2 Milestones are monitored by DECAM Federal Project Director. Contingency is ~ 16 weeks. Any change to these requires approval of the FPD.
- Level 1 Milestones are monitored at DOE. Any change requires approval of the DOE Acquisition Executive. Contingency is ~ 6 months.
- A > 6 month increase in the project completion date requires approval of the DOE Deputy Secretary.



Change Control Thresholds for DECAM

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Change Control Approval Thresholds for DECAM					
	Level 0	Level 1	Level 2	Level 3	Level 4
Authority	DOE Dep.Secretary or Acquisition Executive	Acquisition Executive / SC – Associate Director, OHEP	DOE DECAM Federal Project Director	Fermilab Associate Director for Research	Fermilab DECAM Project Manager
Technical	Any change in scope and/or performance that affects mission need requirements	Any change in scope that affects the mission need requirements	N/A	Any change affecting technical req. defined by SRTSD, or ES&H req. defined by PMP	Any change in the scope as described in the Technical Design Report
Cost	Increase >25% (cum.) in orig. MIE baseline	Any increase in the DOE MIE	Cumulative use of DOE contingency > \$100K	Cumulative use of DOE contingency > \$100K	Any use of contingency
Schedule	> 6 mos increase (cum.) in orig. project completion date	Any change to Level 1 milestones	Any change to Level 2 milestones	Any change > 3 mos to Level 3 milestones	Any change greater than 2 weeks to level 3 milestones