

## **LCLS Proposed Plan and Guidelines for the Limited EIR For Level 1 BCP, July 10-12, 2007**

### **Scope of OECM Limited EIR:**

The scope of the OECM “Limited” EIR should focus on evaluation of the plan for remaining work as it relates to the EIR elements below. The Limited EIR should not assess project past performance, work accomplished, or re-assess unaffected areas (e.g., Basis of Design) that have been evaluated in the past reviews for CD-2 and CD-3 approvals. DOE O 413.3A and the associated Manual do not provide specific guidelines on tailoring an EIR for a Baseline Change. EIR elements listed in M413.3 are designed for pre CD-2 and pre CD-3 comprehensive reviews. Since LCLS is post CD-3, a tailored EIR focused on relevant elements impacted by the FY2007 Continuing Resolution and subsequent funding reduction, is deemed appropriate as recommended below:

- 2. Resource Loaded Schedule.* For selected Work Breakdown Structure elements (those impacted FY 2007 CR Directed Change) summarize the basis for the cost estimate and schedule duration. Assess the method of estimation and the magnitude for each Work Breakdown Structure element reviewed. Identify specific work activity impacted by the baseline change that constitutes project completion and whether these completion activities are sufficiently well defined. Evaluate the reasonableness of the resource levels and resource types for the selected WBS.
- 3. Key Project Cost and Schedule Assumptions.* Identify and assess key cost and schedule assumptions and evaluate the reasonableness of these assumptions in the context of project completion. Assess the reasonableness of the revised cost and schedule contingency and other cost and schedule factors related to the new TPC and the project completion schedule.
- 4. Funding Profile.* Assess whether the project funding profile is linked to and consistent with the revised resource loaded schedule.
- 5. Critical Path.* Review the Critical Path schedule and assess whether the Critical Path is reasonably defined and whether the schedule is integrated and reflects reasonable schedule durations.
- 6. Risk Management.* Determine if risk registry revision has adequately assessed the major risks. Assess whether appropriate risk mitigation actions have been incorporated into the proposed revised baseline. Assess whether adequate contingency has been included in Total Project Costs and Schedule. Describe the approaches used to determine risk and assess adequacy.
- 14. Project Execution Plan.* Review the Project Execution Plan and determine if it is up to-date and reflects and supports the way the project is being managed, is consistent with

the revised documentations in the context of the revised baseline, and establishes a plan for successful execution and completion of the project.

For the remaining EIR elements (10 items), LCLS will provide brief status of on-going efforts in relevant areas [Note: e.g., elements that are not impacted by the Directed Change, e.g., the *WBS* (element #5) or the *Basis of Design* (element #7), will be addressed accordingly by reporting no change since last EIR].

<b>LCLS Proposed BCP Level 1 Roadmap &amp; Schedule of Activities</b>	
<b>Activity</b>	<b>Date</b>
DOE Program provides proposed tailored EIR/Lehman review outline to OPA/OECM	May 17, 2007
OECM and OPA issue "Tailored" Review Plans to Program/Project Office for Comments.	May 25, 2007
Program/Project Office provides comments on plans to OECM/OPA	June 08, 2007
DOE(OPA/OECM) provide authorization for the Review	June 10, 2007
LCLS posts EIR documentation <sup>(1)</sup>	June 12, 2007 (to be negotiated with OECM)
LCLS posts remaining documents required for Lehman Review on Web	June 28, 2007
Tailored Review Plans Finalized by OECM/OPA; transmit to DOE SSO	June 30, 2007
SSO/Project Office post Presentations on Web	July 2, 2007
EIR/OPA Committees On-Site Review	July 10-12, 2007
Committees Out-brief SSO/SLAC	July 12, 2007
OECM Transmit Draft Report	July 24, 2007
DOE/SLAC Transmit Comments	August 7, 2007
OECM Issue Final Review Report to Program Office	August 17, 2007
ESAAB for LCLS Level 1 BCP	Early Sep., 2007

<sup>(1)</sup> The resource loaded schedule will be available in draft form; it will be finalized after the External Committee dry-run which is scheduled for June 21, 2007 (internal LCLS re-baselining schedule). Although updates may be required, changes are not anticipated to impact the CD-4a/4b or the proposed TPC.

Appendix A:

OECM Limited EIR Agenda

## Review Agenda

<i>Start</i>	<i>Topic</i>	<i>Speaker</i>
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### 10 July 2007 – B048/Redwood Room

7:30am	Discussion/Coffee	
8:00	Executive Session	Executive Committee
9:00	Welcome	J. Dorfan
9:15	Project Overview & Assessment	J. Galayda
<b>10:00</b>	<b>Break</b>	
10:15	Project ES&H and Integrated Safety Management	M. Scharfenstein
10:30	Project Mgmt & CR Impacts/Baseline Updates	M. Reichenadter
11:15	LCLS Commissioning	P. Emma
11:45	E-Beam Systems / Undulator Status	D. Schultz / G. Pile
<b>12:30pm</b>	<b>Lunch</b>	
1:30	Site Tour ( <i>Research Yard, NEH, Injector/Laser</i> )	CF PM's
2:30	Photon Beam Systems	J. Arthur
3:00	Conventional Facilities	J. Albino
3:30	LCLS Global Controls	H. Shoae
<b>4:00</b>	<b>Break</b>	
4:30	Breakout Groups Meet with LCLS Breakout Teams	
5:00	Executive Session	
6:00	Adjourn	

### 11 July 2007 – B048/Redwood Room

7:30am	Discussion/Coffee	
8:00	Breakout Sessions (See detailed agendas)	Subcommittees
<b>12:00</b>	<b>Lunch</b>	
1:00pm	Breakout Sessions Continue	Subcommittees
3:00	<b>IPR</b> Executive Session	Executive Committee
5:30	Adjourn	

### 12 July 2007– B048/Various Rooms

7:30am	Discussion/Coffee	
8:00	<b>IPR</b> Closeout Dry Run (Redwood)	<i>IPR</i> Subcommittees
8:00	<b>EIR</b> Working Session (TBD)	<i>EIR</i> Subcommittee
10:30	<b>IPR</b> Closeout (Redwood)	All
11:30	Adjourn <b>IPR</b> Team	
<b>12:00</b>	<b>Lunch</b>	
1:00pm	<b>EIR</b> Wrap-Up & Dry Run (Redwood)	<i>EIR</i> Subcommittee
3:00	<b>EIR</b> Closeout (Redwood)	All
4:00	Adjourn <b>EIR</b> Team	

**Detailed Breakout Sessions**

***SC7/SC8 – Project Mgmt and Limited EIR of LCLS Revised Baseline – Redwood Room C/B048***

Jul 10	4:30pm	Project Assessment & Revised Baseline Overview	J. Galayda
Jul 11	8:00am	EIR Lines of Inquiry (LOIs)	
		LOI-2: Resource-Loaded Schedule	T. Mast
		LOI-3: Key Cost & Schedule Assumptions	T. Mast
		LOI-5: Critical Path	T. Mast
	9:00	LOI-4/6/14 Funding Profile, Risk Management, PEP	M. Reichanadter
	9:30	Construction Schedule	J. Albino
	9:45	Equipment Installation Schedule	R. M. Boyce
	10:15	Commissioning Schedule	P. Emma
	<b>10:30</b>	<b>Break</b>	
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<b><i>Limited EIR Sub-Subcommittee</i></b>			
	11:00	LOIs and Revised Baseline Q&A	M. Reichanadter / T. Mast
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	LOIs & Revised Baseline Q&A	
	5:30	Adjourn Limited EIR Sessions	

Appendix B:

SC IPR Agenda



## Detailed Breakout Sessions

### *SC1/SC2 - Accelerator Systems – Madrone/B048 (upstairs)*

Jul 10	4:30pm	Drive-Laser Commissioning Status	W. White
Jul 11	8:00am	Linac System Overview	J. Chan
	8:30	RF Gun Commissioning Experience	D. Dowell
	9:00	Injector/Linac Commissioning Experience	C. Limborg
	9:30	Linac Diagnostics Commissioning Experience	H. Loos
	<b>10:00</b>	<b>Break</b>	
	10:30	Bunch Length Monitor & Feedback Commissioning	J. Wu
	11:00	Injector/Linac Management	E. Bong
	11:30	Injector/Linac Design Status	C. Rago
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	2007 Installation Status	K. Ratcliffe
	1:30	2008 Installation Status	T. Montagne
	2:00	Linac Controls Status	P. Krejcik
	2:30	Discussion	

### *SC3 – Undulator –Redwood Room B/B048*

Jul 10	4:30pm	Undulator System Status (ANL)	G. Pile
Jul 11	8:00am	Undulator System Status (SLAC)	R. Pope
	8:30	Undulator Production management	G. Pile
	9:00	Undulator and Quadrupole Magnet Production	M. White
	9:30	Undulator Support/movers Production	M. White
	<b>10:00</b>	<b>Break</b>	
	10:30	Undulator Vacuum Chamber Production	D. Walters
	11:00	Undulator Cavity BPM System Status	R. Lill
	11:10	Bellows and Beam Finder Wire Status	D. Walters
	11:35	Undulator Alignment Diagnostics Systems Status	F. Peters
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	Undulator Tuning and Fiducialization	Z. Wolf
	1:30	Undulator Assembly and Installation Planning	R. Pope
	2:00	Undulator Physics Issues	H-D. Nuhn
	2:30	Discussion	

### *SC4/SC10 – Photon Systems – Red Slate*

Jul 10	4:30pm	XTOD Status	R. Bionta
Jul 11	8:00am	XTOD New Plan	D. McMahon
	8:30	XTOD Mirrors	M. Pivovarov, R. Soufli, T. Mccarville
	9:30	XTOD Diagnostics	R. Bionta
	<b>10:00</b>	<b>Break</b>	
	10:30	Discussion	
	11:00	XES Status	S. Moeller
	11:30	XES New Plan	S. Moeller
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	AMO Instrument	J. Bozek
	1:45	Experimental Area Controls/Data Acquisition	G. Haller
	2:30	Discussion	



### Detailed Breakout Sessions (continued)

#### **SC5 – Control Systems – Redwood Room A/B048**

Jul 10	4:30pm	Controls Overview	H. Shoae
Jul 11	8:00am	Controls commissioning experience	P. Krejcik
	8:30	Personnel Protection System	P. Bong
	9:00	Machine Protection Systems	S. Norum
	9:30	Beam Position Monitors & Toroids	S. Smith
	<b>10:00</b>	<b>Break</b>	
	10:30	Low Level RF	D. Kotturi
	11:00	Power Supplies	D. Rogind
	11:30	Timing System	S. Allison
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	Undulator controls	J. Stein
	1:30	High Level Applications Software	D. Fairley
	2:00	BC2/Linac Controls Installation Planning	H. Shoae
	2:30	Discussion	

#### **SC6/SC9 – Conventional Facilities/ES&H – Redwood Room D/B048**

Jul 10	4:30pm	Conventional Facilities Management and Organization	J. Albino
Jul 11	8:00am	Construction Safety	R. Hislop
	8:30	Contract Status	D. McGiven (SLAC)/Mike Owens (Turner)
	9:00	Construction Status	D. Saenz (SLAC)/Nick Tyler (Turner)
	<b>10:00</b>	<b>Break</b>	
	10:30	Construction Schedule	J. Albino (SLAC)/Bill Jangraw (Turner)
	11:00	Contract Issues	J. Albino (SLAC)/Bill Jangraw (Turner)
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	Discussion	

#### **SC7/SC8 – Project Mgmt and Limited EIR of LCLS Revised Baseline – Redwood Room C/B048**

Jul 10	4:30pm	Project Assessment & Revised Baseline Overview	J. Galayda
Jul 11	8:00am	EIR Lines of Inquiry (LOIs)	
		LOI-2: Resource-Loaded Schedule	T. Mast
		LOI-3: Key Cost & Schedule Assumptions	T. Mast
		LOI-5: Critical Path	T. Mast
	9:00	LOI-4/6/14 Funding Profile, Risk Management, PEP	M. Reichanadter
	9:30	Construction Schedule	J. Albino
	9:45	Equipment Installation Schedule	R. M. Boyce
	10:15	Commissioning Schedule	P. Emma
	<b>10:30</b>	<b>Break</b>	
		<b>Project Management Sub-Subcommittee</b>	
	11:00	System Integration, Shutdown Planning	T. Fornek / R. M. Boyce
	11:30	SLAC Operations Transition Planning	J. Galayda
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	Discussion	
		<b>Limited EIR Sub-Subcommittee</b>	
	11:00	LOIs and Revised Baseline Q&A	M. Reichanadter / T. Mast
	<b>12:00</b>	<b>Lunch</b>	
	1:00pm	Discussion/Limited EIR Report Writing	

## Appendix C:

### Excluded Lines of Inquiry

The EIR elements listed/described below are followed by a brief Justification for their omission from the upcoming re-baselining review.

*1. Work Breakdown Structure.* Assess whether the Work Breakdown Structure incorporates all project work, and whether it represents a reasonable breakdown of the project work scope. Assess whether the resource loaded schedule is consistent with Work Breakdown Structure for the project work scope.

**Justification for omission: Since project is post CD-3, only select Work Breakdown Structure elements impacted by the Directed Change and FY 2007 CR will be addressed and evaluated. The Project WBS has been evaluated during the previous EIRs (FY2004/FY 2005) and IPRs (FY2004/FY2006). Therefore, re-assessment of the entire WBS is not necessary.**

*7. Hazards Analysis.* Evaluate the quality of the Hazard Analysis and assess whether all scope, schedule, and costs necessary for safety are incorporated into the baseline. Review the classification of SSCs as safety class or safety significant. Assess the Hazards Analysis process, including the use of internal and external safety reviews. Review any Defense Nuclear Facilities Safety Board and/or Nuclear Regulatory Commission interface and discuss the status of their involvement.

**Justification for omission: Past EIRs and IPR conducted prior to CD-2b and CD-3b have evaluated Projects' Safety Envelopes and Hazard Analysis process and concluded the program satisfies the requirements. The proposed baseline change does not impact Project's safety program.**

*8. System Functions and Requirements.* Assess whether "design to" functions and requirements are reflected in the baseline, including safety and external requirements such as permits, licenses, and regulatory approvals. Evaluate whether system requirements are derived from and consistent with Mission Need.

**Justification for omission: Past EIRs (FY2004/FY 2005) and IPR (FY2004), conducted prior to CD-2b, have evaluated design to functions and requirements reflected in the Baseline as well as consistency with Mission Need. Re-assessment not required.**

*9. Basis of Preliminary Design.* Evaluate adequacy of preliminary design including adequacy of drawings and specifications, and assess whether they are consistent with system functions and requirements. Assess whether all safety Structures, Systems, and Components are incorporated into the preliminary design.

**Justification for omission: The "adequacy" of Basis of Design has been reviewed during the previous EIRs (FY2004/FY 2005) and IPR (FY2004) prior to CD-2b. This Directed Change does not modify the Basis of Design.**

*10. Preliminary Design Review & Comment Disposition.* Review results of the preliminary design review and assess whether additional work identified in the design review has been incorporated into the Performance Baseline.

**Justification for omission: This is a pre-CD-2 requirement accomplished during the previous EIRs (FY2004/FY 2005) and IPR (FY2004) prior to CD-2b. The project is post CD-3. Requirement is not relevant to post CD-3.**

*11. Start-up Test Plan.* Assess whether the start-up test plan identifies the acceptance and operational system tests required to demonstrate that system meets design operational specifications, and safety requirements. Review key tests to ensure that sufficient description is provided to estimate cost and schedule durations associated with these tests.

**Justification for omission: This is a CD-3 requirement that has already been evaluated under two IPRs (2/2006, 10/2006). Project is post CD-3 well into construction and equipment fabrications and installations; re-assessment is not required.**

*12. Project Controls/Earned Value Management System.* Assess whether all project control systems and reporting requirements will be in place prior to Critical Decision-2. For projects where Earned Value Management System is not required, assess the adequacy of an alternate project control system for monitoring and controlling project costs and schedules.

**Justification for omission: This is a pre-CD-2 requirement that has already been evaluated. FY2004 EIR review concluded the system satisfies established requirements. Project is post CD-3 with complete project controls/EVMS in place. Re-assessment not required.**

*13. Value Management/Engineering.* Assess the applicability of Value Management/Engineering, and whether a Value Engineering analysis been performed with results being incorporated into the baseline. Also provide an assessment of the Value Engineering process for this project.

**Justification for omission: Project's VE approach and incorporation into the Baseline. As preparation for CD-2b, EIR reviews (2004/2005) and the IPR review (2004) evaluated LCLS approach to VE and report on VE applications. Re-assessment is not required.**

*15. Acquisition Strategy.* Review the Acquisition Strategy to determine if it is consistent with the way the project is being executed. The Review Team should evaluate any

changes from Critical Decision-1 that may impact whether the current strategy represents best value to the government.

**Justification for omission: This is a CD-1 pre-requisite that has been accomplished. Also, the LCLS Acquisition Execution Plan, a pre-requisite for CD-2b, was approved by the Under Secretary on Oct 2002. Project is post CD-3 with over 95% of contracts awarded; a re-assessment is not required.**

*16. Integrated Project Team.* Assess whether the project management staffing level is appropriate, and determine if appropriate disciplines are included in the Integrated Project Team. Identify any deficiencies in the Integrated Project Team that could hinder successful execution of the project. Required Documentation

**Justification for omission: This is a CD-1 pre-requisite that has already been achieved; the IPT is in place and functioning. The BCP does not impact the IPT. Re-assessment not required.**