Appendix A
Corrective Action Plan

Table A-1 presents a corrective action plan, which is based on the recommendations presented in the EIR of the LCLS Project.

Items noted with ** are the result of major findings. A single * indicates items related to findings. All other items are the result of observations.

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1	2.1.3.4.	2-3	Ensure that WBS dictionary definitions are made clear and unambiguous.	Check (and update as necessary) WBS and milestones dictionary entries to avoid ambiguity. Spare Undulators will be identified as such.	LCLS Project Office Tom Fornek	Complete	The WBS and milestone dictionaries have been updated.		
2	2.1.3.4	2-3	Ensure that WBS dictionary is given an appropriate document identifier and treated as a controlled document.	WBS Dictionary will be added to the LCLS Project Management Documents. Changes to the WBS Dictionary are currently tracked via the Baseline Change Control (BCR) process.	LCLS Project Office Tom Fornek	Complete	The WBS Dictionary is archived in PMD-1.1-043.		
3	2.2.3.1.2	2-6	Freeze the cost estimate backup documentation using version control practices to provide full support and traceability of cost, scope, and schedule baselines.	Basis of Estimate will be added to the LCLS Project Management Documents and placed under configuration control	LCLS Project Office Richard Boyce	Complete	With the ESAAB approval, LCLS cost estimate and schedule were finalized in January 2008.		
4	2.2.3.3.3	2-10	Evaluate the duration and LOE estimate for the Systems Engineering efforts included in WBS 1.04.03.06.03, Undulator Monitoring relative to completion dates of other activities in the WBS element.	Evaluate (and update as necessary) the LOE tasks in 1.4.3.6.3.	LCLS E-Beam Systems David Schultz	Complete	The basis for WPM and HLS tasks extending through October 2008 has been reviewed for accuracy. The LOE duration is correct and necessary for assembly, testing, calibration and checkout of the systems in the undulator hall through October 2008.		

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5*	2.2.3.8.2	2-16	Ensure that all planned LOE staffing levels are captured in the estimate details.	Review and resolve any errors over accelerator commissioning plan.	E-Beam Systems Dave Schultz	Complete	The mismatch for commissioning costs between the detailed cost estimate and P3 has been understood, and a change to P3 has been implemented.		
6*	2.2.3.9.2	2-18	Ensure the cost of undulator spares are shown as actual costs for the LCLS project. Obtain whatever revision is needed to SLAC accounting practices to ensure these costs are appropriately captured and reported as LCLS project costs.	Revise LCLS accounting procedures on spares to take earned value. SLAC Finance to be included.	LCLS Project Office Cindy Lowe	Complete	A process has been in place to appropriately recognize cost and take earned value on spares.		
7	2.2.3.9.3	2-20	Identify the costs of the detector to be installed in the LCLS separately from the R&D efforts being used to develop that detector and move those costs to TEC.	LCLS project management will re-evaluate whether the installation costs should be viewed as a TEC cost and redirect if necessary.	LCLS Project Office John Arthur	Complete	LCLS received conflicting advice on this issue from two EIR's. It is the conclusion of LCLS management that this work is entirely in the R&D category, and therefore it is placed under OPC.		

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8**	2.3.3	2-21	Provide a detailed reconciliation between the current baseline and the proposed baseline that clearly identifies and fully explains all reasons for change that have been captured or reflected in the BCR. This should be done by WBS element at a meaningful level of the WBS (at least Level 3) as well as in a summary fashion that categorizes the changes into at least the following categories: • Unplanned work due to CR and re-planning • Impact of overhead rate changes • Cost impact of schedule changes o Cost escalation o Extended fixed costs for project due to longer schedule • Changed estimates due to lessons-learned, historical experience, better understanding • Increased contingency allowance	LCLS has revised the BCR package to identify the root causes of the revised baseline change.	LCLS Project Office and PMCS Group Mark Reichanadter	Completed on January 11, 2008	The BCR Executive Summary was updated with sufficient detail to provide additional details on the causes of the BCR. Based upon the additional clarifications in the Executive Summary, a memo was sent on January 11, 2008 by OECM Director to the Director of Office of Science validating the revised Project Performance Baseline.		

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9*	2.4.3	2-24	Review all milestones to determine discrepancies between the P3 schedule and other tools utilizing this data and make the appropriate corrections.	Check (and update as necessary) the Milestone Dictionary to ensure all data is consistent with the approved P3 schedule.	LCLS Project Office Richard Boyce	Complete	The specific milestone cited in the finding was a remnant that should have been removed during a previous replan. This has been corrected.		
10*	2.4.3	2-24	Revise the definition for CD-4 in the Milestone Dictionary to match that in the Project Execution Plan. Coordinate any changes with other adjustments to CD-4 completion criteria.	Clarify the definition of CD-4 in the Project Execution Plan, and make references to the CD-4 definition in the Milestone Dictionary and other Project documents consistent.	LCLS Project Office John Arthur	Complete	The CD-4 definition has been clarified as recommended.		
11*	2.4.3	2-25	Provide a statused RLS schedule that supports the monthly and cumulative schedule completion percentage and variance in the monthly reports.	The Performance Measurement Baseline resides in COBRA, not in P3, which is what provides our Cost/Schedule Status Report (CSSR). During the on-site review, the LCLS team provided the P3 statused schedule and the drill-down CPR. We can send another copy if required.	LCLS PMCS Group Trish Mast	Complete	The LCLS Performance Measurement Baseline exists in COBRA not in P3. In P3, the activities are resource-loaded and statused with an earned-value % complete. The % complete is then ported to COBRA where the earned value is calculated. The drill-down Cost Performance Report (CPR) shows each Control Account, with its earned value milestones and % complete which is equal to P3 status and start /finish dates. Complete as of the January baseline.		

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12	2.4.3	2-25	Describe the process for determining fully bur-dened BCWS using COBRA in the Schedule assumptions.	Add into the Cost and Schedule assumptions the process for determining fully-burdened BCWS	LCLS PMCS Group Trish Mast	Complete	The LCLS Performance Measurement Baseline exists in COBRA not in P3. In P3, the activities are resource-loaded and statused with an earned-value % complete. The % complete is then ported to COBRA where the earned value is calculated. The process for determining fully burdened BCWS is documented in our rate book.		
13	2.5.3	2-27	Include all risks, including those previously closed, in the project Risk Register. Use color coding or a similar scheme to highlight currently open risks requiring continued management attention. Ensure that all risks, including those assumed to have been closed, are re-visited at least annually to determine whether or not all existing threats are properly identified and described.	All risks, including those previously close, are included in the Risk Registry. Closed risks are 'hidden' to allow managers to focus only on the active risks. However, the full list is available at any time.	LCLS Project Office Mark Reichanadter	Complete	No action required.		

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14*	2.5.3	2-27	Do not consider control account mischarges as a risk that can be handled with project contingency allowances. Institute rigorous management processes to ensure all mischarges are identified in a timely manner and subsequently corrected so that those costs are not charged to project accounts.	The risk of control account mischarges will be removed from the Risk Registry. The rigorous management processes to ensure all mischarges are identified and handled in a timely manner, will remain in place.	LCLS Project Office Richard Boyce	Complete	Risk R1.1-021 has been removed from the registry on March 14, 2008. Hammer Tool has been implemented to track budget vs. actuals on a monthly basis by the CAMs.		
15	2.5.3	2-29	Consider adding a factor that addresses probability of occurrence into the quantitative/probabilistic risk analysis model used to assess project cost contingency allowances.	Check (and update as necessary) the probability factors used in assessing contingency allowances	LCLS Project Office John Galayda	Complete	The project believes this is a conservative method which validates the bottoms up contingency estimates. Therefore the project has decided to continue to use this probability model.		

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16	2.6.3	2-31	Consider accelerating the TEC or Line Item funding requested for the project so that the final year of such funding is FY 2009.	This is a DOE-BES programmatic decision optimizing annual funding across several projects.	DOE-BES Program Office	Complete	Action is complete. SC/BES has considered this recommendation and concluded that the funding profiles related to portfolio of BES projects are optimized. The recommended funding acceleration will not accelerate the early finish milestone for CD-4 since it is limited by schedule and not funding. BES portfolio of line item construction projects is budget constrained and modifying funding profiles would have adverse impacts on one or more priority construction projects within the portfolio.		
17*	2.7.3	2-32	Determine the measur-able CD-4 deliverables, identify the sources, and publish the deliverable requirements in the PEP.	Update and clarify the description of CD-4 deliverables in the Project Execution Plan,	LCLS Project Office John Arthur	Complete	The CD-4 description was updated and clarified.		

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18*	2.8.3	2-33	Revise and expand completion criteria to ensure that they are defined consistently and unambiguously throughout the documentation and accurately describe the product of the project in terms of physical construction (square feet, lineal feet of tunnel or beam line, etc) and the measurable capacity of the research machine. Include the values that will define the completion of the project and tie them to the goal values used to define the project at CD-0.	Recommend a more comprehensive punch list of CD4 deliverables. Update the Start-Up Plan (and PEP) as necessary.	LCLS IPT John Galayda	Complete	PEP has been updated.		
19*	2.9.3	2-35	Revise the PEP to more comprehensively define the Department's plans for executing the project. Specifically, expand and improve the sections on resource requirements, procurements, life cycle cost, and status of project EVMS certification for compliance with ANSI/EIA-748-A-1998.	The PEP will be revised to expand on discussions related to: resource requirements; procurements; life cycle cost; and status of project EVMS certification for compliance with ANSI/EIA-748-A-1998.	LCLS IPT Hanley Lee	Complete for AE approval by the ESAAB date.	The PEP was revised and approved by the Acquisition Executive on Feb. 5, 2008.		
20	2.9.3	2-35	Revise the PEP to more comprehensively define the CD-4 acceptance criteria.	Recommended action accepted.	LCLS IPT Hanley Lee	Complete for AE approval by the ESAAB date.	The PEP was revised and approved by the Acquisition Executive on Feb. 5, 2008.		

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21	2.9.3	2-35	Revise the PEP to eliminate editorial deficiencies	Recommended action accepted.	LCLS IPT Hanley Lee	Complete for AE approval by the ESAAB date.	The PEP was revised and approved by the Acquisition Executive on Feb. 5, 2008.		
22*	2.10.3	2-36	Prepare a separate, stand-alone IPT charter document with headquarters approval at an appropriate level. Expand the text to give a more comprehensive explanation of the makeup and responsibilities of the IPT. The Charter may be attached to the PEP as an appendix, or the like.	Additional text will be included to explain the makeup and responsibilities of the IPT. FPD Re-evaluated the need and value of separating the IPT charter from the PEP. On this matter, The PEP is in full compliance with O413.3A and given the satisfactory IPT performance so far (through 3 critical decisions), the need of creating a stand alone IPT charter is not warranted. .	LCLS IPT Hanley Lee	Complete for AE approval of the PEP by the ESAAB date.	The PEP was revised and approved by the Acquisition Executive on Feb. 5, 2008.		

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23	2.10.3	2-37	The project team should prepare and document a strategy for addressing the certification level of the FPD and submit to headquarters for review and approval.	Recommended action accepted.	SSO Hanley Lee	Complete	Based on the remaining duration of the project it is impractical to change the current FPD. The EIR committee acknowledged this conundrum and agreed the stated solution was appropriate.		