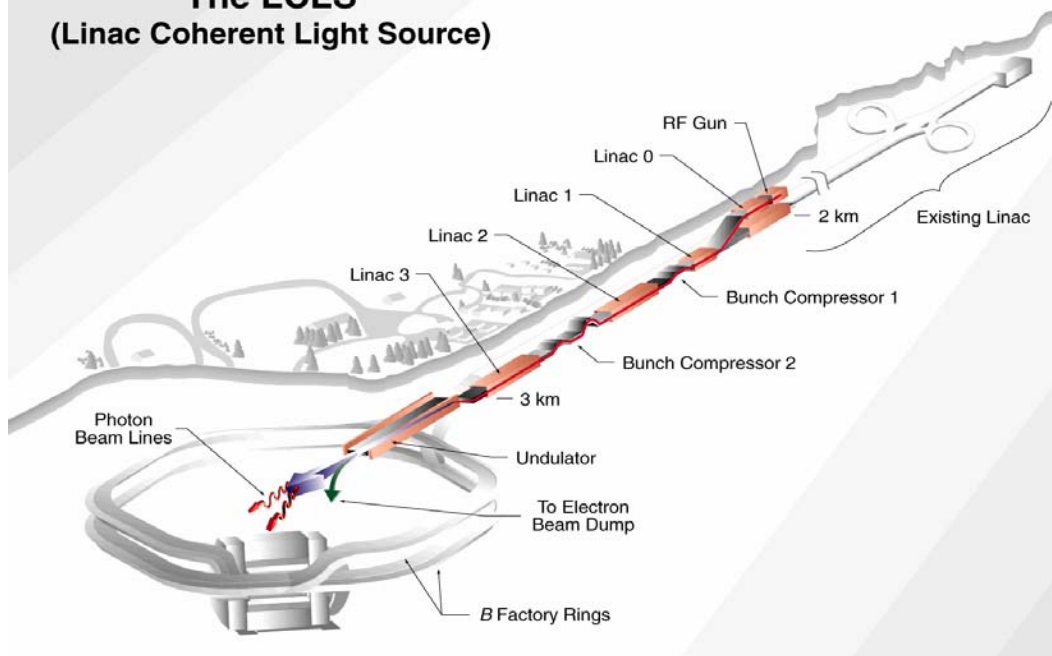


# Linac Coherent Light Source (LCLS)

## An X-Ray Free Electron Laser



### The LCLS (Linac Coherent Light Source)



# Advance Procurement Management Plan

LCLS PMD-002-r0 July 2004

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# **Advance Procurement Management Plan (APMP) For the LCLS Project**

**Prepared and  
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## **Section I. Introduction**

This Advance Procurement Management Plan (APMP) describes how the Linac Coherent Light source (LCLS) project being constructed at the Stanford Linear Accelerator Center (SLAC) will procure goods and services required to accomplish the project mission. The purpose of the APMP is to identify the critical procurements necessary to construct the LCLS project, define the key roles and responsibilities of key individuals involved in LCLS procurements and to formulate detailed advance plans and strategies such that procurement awards can be placed to minimize technical, cost and schedule risk to the LCLS project.

## **Section II. Responsibilities**

### **1. Technical**

The LCLS Chief Engineer is responsible for the technical definition of project procurements. The technical and scientific parameters of the project are maintained in the project database which is controlled by a Configuration Control Board. Technical specifications will be reviewed for consistency with these parameters.

### **2. Procurement**

The SLAC LCLS Project Acquisition Manager will be responsible for ensuring that critical procurements comply with all participating laboratories' Standard Operating Procedures and provides the primary contact between the LCLS Project and the participating laboratories' Procurement Departments.

### **3. Funds Authorization**

Authorization for purchase requisitions, Procard purchases, and other internal services will be given in accordance with the LCLS signature

authorization procedure defined in the LCLS Project Management Plan (LCLS PMD-001).

The SLAC LCLS Project Acquisition Manager, will have signature authority for all SLAC LCLS procurements up to \$100,000. Signature authority above \$100,000 is defined by the SLAC Business Services Division.

### **Section III. Organization**

#### **1. Coordination Meetings**

To maintain close communication and coordination between the LCLS Project and the participating laboratories' procurement departments, biweekly meetings will be held to ensure that the procurement process proceeds smoothly from the preparation of the Advance Procurement Plan through delivery of the Critical Procurement. Decisions on procurement methods, statements of work, basis for evaluations and awards, and contract administration will be established as early as possible to avoid disruptions late in the procurement process.

#### **2. Expediting Personnel**

Expeditors will be assigned to the LCLS project during heavy phases of procurements to assist in the preparation of drawing packages, and technical, safety and quality control specifications to ensure that the procurement schedule is maintained.

### **Section IV. Procurement Plan**

#### **1. Advance Procurement Plans**

Advance Procurement Plans (APP's) are used to describe any procurements that have special requirements or criteria (i.e., technical, cost, schedule, quality, safety, etc.). Each APP shall be created by the applicable

LCLS System Manager or Cost Account Manager responsible for the item being purchased. He or she will consult with the Project Acquisition Manager for input on compliance with procurement regulations. The plan must be signed off by the relevant Cost Account and System Managers, the Project Acquisition Manager, and the LCLS Chief Engineer. Procurements over specific thresholds (see Section IV.3) must have the APP approved by the LCLS Federal Project Director and the DOE Contract Officer.

Except as otherwise determined by an APP, all procurements will be handled in accordance with the participating laboratories' Standard Operating Procedures which have been approved by the U.S. Department of Energy (DOE). Any exceptions must be approved in advance by the DOE Project Director and the DOE Contracting Officer.

Each APP should include the following sections as applicable:

- 1) Members of APP Planning Team (including author/contact person)
- 2) Most Recent Estimated Cost and Baseline Cost Estimate (Source: P3)
- 3) Scope of Work (SOW) (Item or System Description). This section provides an overview of the procurement and provides any details to be passed onto the vendor. As the SOW is designed to be copied verbatim from the APP, the author should take note that this section does not contain any confidential or proprietary information that should not be divulged with potential vendors.

The following subsections may also be included in the SOW

- a) Delivery Requirements
  - i. Special testing and/or packaging requirements
  - ii. Deliverables (test data, manuals, documentation, certifications, and so forth).
  - iii. Quality/Safety requirements.
- b) Procurement Schedule
  - i. Delivery rate/schedule
  - ii. First delivery, final delivery, etc..

- 4) Proposed Sources
  - i. Extent of anticipated small and small, disadvantaged business participation.
  - ii. Extent of publication of requirement, including both "sources sought" and of solicitation actions.
  - iii. Pre-qualification of sources
  
- 5) Selection Criteria
  - i. Request for Quotation (RFQ)
  - ii. Request for Proposal (RFP)
  - iii. Memorandum of Understanding (MOU)
  
- 6) Award Criteria
  - i. Evaluation system and stated basis of award
  - ii. Designated evaluation team
  
- 7) Finding and Determinations
  - i. Type of contract.
  - ii. Sole source or restricted source.
  - iii. Other considerations (i.e., phased funding, build to print/spec)
  
- 8) Necessary DOE approvals

## 2. Critical Procurements

The Chief Engineer will prepare and maintain a list of critical procurements. See attached Appendix A - LCLS Critical Procurements. The LCLS Project Director will approve the initial list and changes will be submitted to the Configuration Control Board for approval. An APP can be written to describe and/or clarify the process for any particular procurement; however an APP is required for all critical procurements. The following guidelines will be used in determining which elements of the LCLS are deemed critical procurements:

- All procurements over \$1 million for a single action or an aggregate for a series of actions involving the same item.



- All procurements over \$100 thousand will be reviewed by the Chief Engineer to determine if they require special management attention to accomplish the project mission.
- Procurement actions that require complex evaluation systems.
- Procurements that have high technical, cost, or schedule risk.

### 3. DOE Oversight & Approvals

The LCLS Project Office will maintain up-to-date procurement schedules, Advance Procurement Plans, and the list of Critical Procurements shown in Appendix A. These elements will be submitted to the DOE Stanford Site Office for their information along with timely updates on schedule revisions and problems. Any elements requiring DOE approval will be planned in advance and submitted in a timely manner to allow adequate review. Advance DOE signature approval by the LCLS Federal Project Director and the DOE Contracting Officer is necessary for the following procurements;

- All procurements over \$7 million competitively bid for firm fixed price awards for standard components.
- All procurements over \$5 million competitively bid for firm fixed price awards for non-standard components.
- All procurements over \$3 million awarded sole-source for firm fixed price for standard or non-standard components.
- All procurements over \$100 thousand awarded as a cost-type contract.

### 4. Procurement Methods

Because of the nature of most of the items to be procured, procurements will be principally conducted through a negotiated procurement process (RFP, RFQ). Awards will generally be made to the lowest priced bid

assuming all technical and schedule requirements can be met, however, “best value” awards can be made if the requestor has stipulated that the evaluation permit trade-offs between technical, price, and other designated criteria. These stipulations are best called out explicitly in an APP.

## **Section V. Risk Management**

Each Critical Procurement will be analyzed to determine potential cost, technical and schedule risk, and appropriate procurement methods; contract type and special features will be used as appropriate to the risk.

### **1. Cost Risk**

- a. Whenever practical, fixed-price contracts will be used to minimize cost risk to the project.
- b. Requirements for related commercial items will be consolidated to enhance discounts.
- c. Requirements of Indefinite Quantity/Delivery contracts may be used to permit economies of scale on items needed in substantial quantities over time periods.
- d. Cost-type contracts will be used only when the uncertainties involved in contract performance do not permit the cost to be estimated with sufficient accuracy for using a fixed-price contract. Cost incentives may be considered for subcontracts if meaningful incentives are possible.

### **2. Technical Risk**

- a. Detailed technical specifications, whether defined in the APP or in an external document, will be used whenever practicable to minimize technical risk.

- b. Performance specifications will be used when detailed, technical specifications are not practicable.
- c. When appropriate, Evaluations Boards will be organized to evaluate offers on Critical Procurements to ensure appropriate cost/schedule/performance trade-offs.
- d. Offers will be evaluated to determine the offerors responsibility, either by reference to relevant past performance history or through pre-award surveys.
- e. Situations leading to post-award changes will be minimized.

### 3. Schedule Risk

- a. Realistic advance planning will ensure adequate time for orderly procurement.
- b. If appropriate, during the evaluation, offerors facilities and capabilities will be reviewed to assess the offerors abilities to perform on schedule.

## **Section VI. Source Selection**

### 1. Competition

- a. Procurements will be made on a competitive basis to the maximum extent practicable.
- b. For critical procurements, source development will be attempted whenever an adequate number of sources is not known or to locate small and small, disadvantaged business if the requirements are suitable.

### 2. Statements of Work

- a. Unduly restrictive statements of work and specifications will be avoided. Detailed specifications will reflect minimum needs of the Project and functional and/or performance specifications may be used if practicable.
- b. Statements of work will clearly describe any special conditions such as first article testing, special inspection requirements, certifications, reports, and so forth.

### 3. Evaluation and Award

- a. The basis for evaluation and award will be established prior to solicitation and will be clearly stated in the solicitation, including any relative weighting between evaluation factors (for example, price, delivery, technical considerations, experience, and past performance).
- b. Evaluations will adequately document the basis for the selection decisions.

## **Section VII. Contract Administration**

### 1. Procedures

- a. Approved contract administration procedures will be used unless the Advance Procurement Plan provides for unusual procedures.
- b. Contract terms and conditions will be actively enforced including requirements for delivery of reports. Consideration will be sought for any significant contractor performance deficiencies.

### 2. Changes

- a. Contract changes will be kept to an absolute minimum. Estimates of the cost and schedule impact of changes will be fully developed prior to the issuance of a change order.
- b. Any work to be added which falls outside of the scope of the contract will be treated as new work. Addition of such work to an existing contract will be fully justified.

## **Section VIII. Project Tracking of Procurement Actions**

### **1. Critical Procurement Tracking System**

- a. The LCLS Chief Engineer will develop, refine, and update a tracking system for all Critical Procurements and other procurement actions as indicated by the LCLS Project Director.
- b. The Project Procurement Tracking System will commence tracking each critical procurement at the time the requirement is initially defined and determined to be necessary. The system will, at a minimum, track the following:
  - i. Requirements development to the point at which there is a complete technical package.
  - ii. Necessary approval actions, including any DOE approvals.
  - iii. Key procurement actions including pre-solicitation, publication, set-aside decisions, solicitation, evaluation, and award (and any problems therein).
  - iv. Key performance items such as reports, tests, technical problems, and any related contractual actions (for example, change orders).
  - v. Delivery schedules and costs.
  - vi. Status of liquidations (payments).

## 2. Configuration Management

The parameters of the LCLS Project are captured in an on-line database that is available to the LCLS Project staff. This assures that procurements will be consistent with the current version of the configuration. Any changes to the basic parameters must be reviewed and approved by the Configuration Control Board chaired by the LCLS Project Director. This review covers cost and schedule impact of the change including any changes that will be required in in-progress procurements or Critical Procurement Plans.

## **Section IX. Conflict of Interest**

### 1. Contractors

All contractors must complete the Representation Concerning Conflict of Interest as a condition for award of contracts in excess of \$10,000.

### 2. Project Personnel

The Purchasing Office will assure that those personnel defining requirements or evaluating proposals have no interest in any potential or actual competitor for such a requirement.

## **Section X. Make or Buy**

The Chief Engineer will review fabrication requirements and recommend whether to use in-house capabilities or buy the item from an outside supplier. This program applies to the fabrication of hardware and services. The goals of this program are as follows:

- a. Meet the LCLS Project mission, cost, design, and schedule requirements effectively.

- b. Comply with obligations to support small, small disadvantaged, and women-owned business enterprises as defined by the participating laboratories.
- c. Efficiently use and maintain the participating laboratories' capabilities according to their and DOE objectives.

DRAFT

## Appendix A (rev6) – LCLS Critical Procurements

WBS#	Procurement Award Description*	Resp	Estimated Cost	Fund Type	Current APP w/ SOW**	Risk*** C-S-T			Add'l Specs	RFP / RFQ	Proposals Received	DOE Signatures	Current Award Date
1.1.2.1.2	PMCS Contract	SLAC-Reich	\$3,601,680	PED	3-Jun-04	3	4	3	APP+1mo	APP+1mo	APP+1.5mo	NA	1-Oct-04
1.9.3.1.1	T3 Const. Pkg. Alcove	SLAC-Saenz	\$1,266,000	LLP	15-Aug-04	2	4	2	APP+1mo	APP+1mo	APP+1.5mo	NA	25-Oct-04
1.4.3.3.1	Contract - Ti Strongback	ANL-White	\$2,341,000	LLP/Spr	15-Aug-04	4	2	3	APP+1mo	APP+1.5mo	APP+2.5mo	NA	1-Nov-04
1.4.3.3.2	Contract - Magnet Blocks	ANL-White	\$1,131,171	LLP/Spr	15-Aug-04	3	1	2	APP+1mo	APP+1.5mo	APP+2.5mo	NA	9-Nov-04
1.4.3.3.3	Contract - Magnet Poles	ANL-White	\$1,573,152	LLP/Spr	15-Aug-04	3	4	3	APP+1mo	APP+1.5mo	APP+2.5mo	NA	9-Nov-04
1.3.6.5.1	X-Band Klystron	SLAC-Bong	\$392,000	LLP/Spr	23-Aug-04	2	4	3	APP+1mo	APP+1.5mo	APP+2.5mo	NA	23-Dec-04
1.2.3.2	Contract for Drive Laser	SLAC-Dowell	\$1,090,000	LLP	1-Sep-04	2	4	2	APP+1mo	APP+1.5mo	APP+2.5mo	NA	3-Jan-05
1.9.3.2.1	(MMF) Construction Contract	SLAC-Saenz	\$1,266,000	LLP	1-Sep-04	3	4	2	APP+1mo	APP+1mo	APP+1.5mo	NA	11-Nov-04
1.4.3.5.1	Contract - Quadrupoles	ANL-Milton	\$1,011,500	Constr	1-Dec-04	2	2	2	APP+1mo	APP+1.5mo	APP+2.5mo	NA	3-Oct-05
1.9.3.5.1	T3 Construction Package (RY - FELC)	SLAC-Saenz	\$48,009,715	Constr	2-Feb-05	5	5	3	APP+1mo	APP+1.5mo	APP+2.5mo	15-Aug-05	3-Oct-05
1.4.3.3.4	1st Contract Vendor A - Mag Assy & Supp	ANL-White	\$565,250	Constr	27-Jul-05	3	4	3	APP+1mo	APP+1.5mo	APP+2.5mo	NA	2-Nov-05
1.4.3.3.4	2nd Contract Vendor B - Mag Assy & Supp	ANL-White	\$565,250	Constr	27-Aug-05	3	4	3	APP+1mo	APP+1.5mo	APP+2.5mo	NA	16-Nov-05
1.3.2.4.4	Contract - Linac Cableplant Installation	SLAC-Bong	\$604,800	Constr	20-Sep-05	3	4	4	APP+1mo	APP+1.5mo	APP+2.5mo	NA	29-Dec-05
1.4.3.8.3	Award Contract - Granite Beams	SLAC-Welch	\$448,000	Constr	4-Oct-05	2	2	2	APP+1mo	APP+1.5mo	APP+2.5mo	NA	6-Mar-06
1.9.3.4.4	T3 Construction Pkg (Linac)	SLAC-Saenz	\$324,520	Constr	13-Jan-06	3	4	2	APP+1mo	APP+1.5mo	APP+2.5mo	NA	1-Aug-06
1.5.3.4	Contract Ion Gauges - Tunnel Mech/Vac	LLNL-Bionta	\$1,505,560	Constr	2-Mar-06	2	2	2	APP+1mo	APP+1mo	APP+1.5mo	NA	7-Jun-06
1.4.3.4.1	Exercise Option Vend A - Prdn Units	ANL-White	\$7,235,200	Constr	6-Mar-06	2	3	3	APP+1mo	APP+1.5mo	APP+2.5mo	1-Jun-06	20-Jul-06
1.5.3.4	Contract Ion Pumps - Tunnel Mech/Vac	LLNL-Bionta	\$1,160,000	Constr	9-Mar-06	2	2	2	APP+1mo	APP+1mo	APP+1.5mo	NA	7-Jun-06
1.4.3.4.1	Exercise Option Vend B- Prdn Units	ANL-White	\$6,783,000	Constr	6-Apr-06	2	3	3	APP+1mo	APP+1.5mo	APP+2.5mo	1-Jul-06	18-Aug-06
1.9.3.3.1	T3 Construction Package (MCC)	SLAC-Saenz	\$224,000	Constr	16-Jul-06	3	2	2	APP+1mo	APP+1mo	APP+1.5mo	NA	14-Sep-06

**TOTAL**

**\$81,097,798**

\* All procurements will be Firm Fixed Price

\*\* Advance Procurement Plan (APP) transmitted to the Project Director by this date

\*\*\* Risk, C=Cost, S=Schedule, T=Technical on a scale of 1-5. 1=little or no risk, 5=significant risk