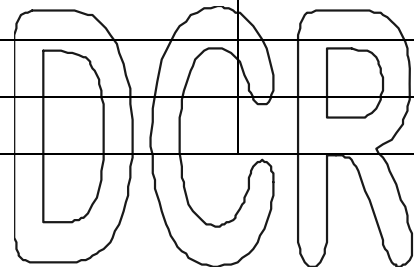


STATEMENT OF WORK (SOW)	Doc. No. SP-391-001-68 R0	LUSI SUB-SYSTEM CXI
Statement of Work for the Design of the CXI Detector Stage		
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Approved:	_____	_____
	Signature	Date
Approved: Darren Marsh Quality Assurance Manager	_____	_____
	Signature	Date
Approved: Tom Fornek LUSI Project Manager	_____	_____
	Signature	Date

Revision	Date	Description of Changes	Approved
R0	20FEB09	Initial release	



1. Introduction

The Coherent X-ray Imaging (CXI) instrument to be built at the Linac Coherent Light Source (LCLS) by the LCLS Ultrafast Science Instruments (LUSI) on the SLAC National Accelerator Laboratory site requires a 2D pixel array detector to be accurately placed with respect to the incident X-ray beam in order to detect X-rays scattered from a sample. This detector will be mounted inside a vacuum enclosure and the entire device is called the CXI Detector Stage.

This Detector Stage will have 5 degrees of freedom: X, Y, Z translation as well as pitch and yaw.

A vendor is sought to produce a complete design of the CXI Detector Stage and generate fabrication drawings for the device.

2. Scope

The vendor shall perform the following tasks described in SLAC document No. SP-391-000-70.

1. Preliminary Design

The vendor shall design a Detector Stage system capable of meeting the specifications contained in SLAC document No. SP-391-000-70.

2. Preliminary Design Review

When a sufficient design level has been reached, as agreed upon by SLAC and the vendor, a Preliminary Design Review shall be held at SLAC where the vendor shall present to a small committee, the status of the design and how the mechanical design meets the specifications contained in SLAC document No. SP-391-000-70.

3. Final Design

After the Preliminary Design Review, the vendor shall proceed to complete the design phase by incorporating the comments from the review and addressing the concerns raised by the committee. The final design of the vendor shall meet all the specifications contained in SLAC document No. SP-391-000-70, unless specifically agreed upon by SLAC.

4. Final Design Review

When the final design is complete, as agreed upon by SLAC and the vendor, a Final Design Review shall be held at SLAC where the vendor shall present to a small committee, the final design and how the mechanical design meets the specifications contained in SLAC document No. SP-391-000-70.

5. Drafting Phase

After successful completion of the Final Design Review, the vendor shall proceed to:

- Create detail drawings of all fabricated parts
- Write assembly instructions of all sub-assemblies and provide maintenance procedures for all sub-assemblies as well as the top-level assembly
- Create assembly drawings of all sub-assemblies and the top level assembly
- Generate a complete bill of materials

3. Applicable Documents

- SLAC document No. SP-391-000-70, “Engineering Specifications for the CXI Detector Stage”
- SLAC drawing No. DS-391-000-36, “Mechanical Design Standards Supplement”
- SLAC drawing No. SC-700-866-47, “Specification Kly & Vac Machining Fluids”
- SLAC document No. I-720-0A29Z-001, “SLAC ES&H Manual, Chapter 14, Pressure, Vacuum and Cryogenic Systems”
- SLAC document No. I-720-0A24E-001, “Seismic Design Specification for Buildings, Structures, Equipment, and Systems”

4. Requirements and Specifications

All requirements and specifications for the CXI Detector Stage are found in SLAC document No. SP-391-000-70.

4.1. Deliverables

The vendor has the following deliverables to SLAC:

- Present the current design state at periodic meetings throughout the design phase

- Present the design at the Preliminary Design Review
- Present the design at the Final Design Review
- Deliver all CAD files for the designed system
- Deliver all detailed calculations performed during the design phase
- Transfer any simulation or Finite-element Analysis input files in a format to be agreed upon with SLAC (if applicable)

4.2. Delivery times

The following duration for each phase of the work as desired:

Preliminary Design: 4 weeks

Final Design: 3 weeks

Drafting Phase: 6 weeks

Some down time is expected between each phase of the design to allow SLAC schedule design reviews and to resolve potential interface issues with other devices. During this down time, the vendor is not expected to perform any work on this project. The total duration of the project, including the down time, is expected to be 4-5 months.

5. Quality Assurance Requirements

All drawings delivered will be checked by SLAC according to SLAC's quality assurance practices.