



Statement of Work

PS-129b aLIGO LLO Laser Area Enclosure Acoustic Shell

The following documents are incorporated into and made a part this Statement of Work (SOW). Click on the following LIGO Document Control Center (DCC) links to access these documents or go on line to the LIGO Public DCC at <https://dcc.ligo.org/> to access the DCC#.

1.0 Terms:

<u>DCC #</u>	<u>Description</u>
C080185-v1	Laser Interferometer Gravitational Wave Observatory (LIGO) Commercial Items or Services Contract General Provisions California Institute of Technology “Institute”, LIGO Rev 11/12/08
F0810001-v4	Technical Direction Memorandum.

2.0 Quality Control:

The supplier shall:

- 1) Meet or exceed all specifications and requirements
- 2) Identify the corresponding sections/paragraphs in their existing QA/QC system or proposed QA/QC plan for each of the boxes checked in the table below.

<u>DCC #</u>	<u>Description</u>		
Q0900001-v4	Advanced LIGO Supplier Quality Requirements, dated 2/10/10, describes the following contractor/supplier QA/QC actions for this procurement:		
<input type="checkbox"/>	3.1 Pre-Award Inspection	<input type="checkbox"/>	3.9 Discrepant Material Storage
<input checked="" type="checkbox"/>	3.2 Supplier In Process Quality Control	<input checked="" type="checkbox"/>	3.10 Quality Records
<input type="checkbox"/>	3.3 In Process Inspection	<input checked="" type="checkbox"/>	3.11 Drawing and Specification Change Control
<input type="checkbox"/>	3.4 Pre-Ship Inspection	<input type="checkbox"/>	3.12 Welding Certification
<input type="checkbox"/>	3.5 Receiving Inspection	<input checked="" type="checkbox"/>	3.13 End Item Data Package (including Certifications of Compliance)
<input type="checkbox"/>	3.6 Discrepant Material	<input checked="" type="checkbox"/>	4.1 Design Verification
<input checked="" type="checkbox"/>	3.7 Material Review Action	<input type="checkbox"/>	4.2 Raw Material Procurement
<input type="checkbox"/>	3.8 Material Review Actions at Contractor	<input type="checkbox"/>	4.3 Traceability of Materials
		<input type="checkbox"/>	4.4 Calibration Program
		<input type="checkbox"/>	4.5 Critical Interface
		<input checked="" type="checkbox"/>	4.6 Cleanliness
		<input type="checkbox"/>	4.7 Packaging
		<input type="checkbox"/>	4.8 Storage
		<input checked="" type="checkbox"/>	4.9 Transport
		<input type="checkbox"/>	4.10 Customs

3.0 Included Documents:

Required Drawings:

<u>DCC #</u>	<u>Description</u>
D1002391-v3	Mechanical Plan, L1 Laser Area Enclosure Acoustic Shell
D1002392-v2	Mechanical Plan and Schedules, L1 Laser Area Enclosure Acoustic Shell
D1002393-v2	Mechanical Sections and Details, L1 Laser Area Enclosure Acoustic Shell
D1002394-v2	Room Layout/Framing Plan, L1 Laser Area Enclosure Acoustic Shell
D1002395-v2	Framing Plans and Elevations, L1 Laser Area Enclosure Acoustic Shell

LAE Cleanroom Specifications (For Reference Only):

<u>DCC #</u>	<u>Description</u>
C1002229-v1	PSL Laser Area Enclosure Cleanrooms - Specifications, Requirements, and Design Considerations
D1002787-v2	Ante-room Plan, L1 Laser Area Enclosure
D1002789-v2	Ante-room Elevations, L1 Laser Area Enclosure

4.0 Scope:

This SOW is for the fabrication of the aLIGO PSL Laser Area Enclosure Acoustic Shell, for the L1 interferometer, at the LIGO Livingston Observatory. The structure is to be fabricated as shown in the “Required Drawings” in Section 3.0.

Constraints:

- 1) Welded, sheet vinyl flooring will be in place before construction of the Acoustic Shell and must be protected from damage during construction.
- 2) The 5 ft. x 16 ft. x 40" surface height PSL optical table will be grouted in place prior to construction of the Acoustic Shell and must be protected from damage.
- 3) Acoustic shell to be constructed inside the Lasers and Vacuum Equipment Area (LVEA), a cleanroom facility. No sanding of gypsum board, etc.
- 4) Activities that generate particulates, such as sanding, grinding, and painting must be avoided or controlled. Alternatives such as trowel finish on drywall joints, brushing and rolling as opposed to spray painting, etc. are preferred. Exceptions, along with particulate mitigation plans must be approved by LIGO in advance.

Information to be updated prior to start of construction:

- 1) Exact dimensions of finished opening for double doors between Ante-room and Laser Room.
- 2) Exact dimensions of finished opening for exhaust damper in wall between Ante-room and Laser Room.

5.0 Quantity Required:

1 ea.	LIGO Livingston Observatory, Livingston, LA
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Acoustic Shell Installation Dates:

L1 Acoustic Shell Installation: January 19 - February 8, 2011

For Reference Only:

L1 Cleanroom Installation: February 9 - March 2, 2011