



Statement of Work LIGO-C2000270-v1

1.0 Scope (LIGO sub-system)

This Statement of Work is for an RFQ package for a total qty of 10 machined parts needed as we adjust a beam path coming out one of our LIGO vacuum chambers (BSC3) onto an optical table (COP2).

LIGO is a set of two 4km long interferometers used for detecting gravitational waves, located in Louisiana and Washington.

The parts required are:

- 8.5" diameter aluminum part used to clamp our secondary viewports (drawing [D2000478](#))
- 9.5" diameter aluminum enclosure (drawing [D2000479](#))
- 3" 304 stainless steel support bracket in two different angular configurations that will be inside our vacuum chamber (drawing [D2000480](#))
- 4.5" aluminum brace used to secure a mirror (drawing [D2000481](#))

We require two of each part. One to be sent to each of our two observatory sites. This is described in the shipping section below.

2.0 Document Access

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

3.0 Commercial Terms and Applicable LIGO Specifications:

Note: The documents listed below are invoked for this Statement of Work and comprise additional requirements which are integral to this Statement of Work.

- [LIGO-C080185-v2](#) LIGO Commercial Items or Services Contract General Provisions
- [LIGO-Q0900001-v5](#) Advanced LIGO Supplier Quality Requirements
- [LIGO-Q1100003-v1](#) Acceptable Quality Level (AQL) for Inspection of LIGO Components
- [LIGO-E0900364-v9](#) Metal Components for use in the Advanced LIGO Vacuum System

A copy of these documents will be provided as part of the RFQ package as a document called **Commercial Terms**.

4.0 Quality System:

Referring to the above referenced LIGO Specification Q0900001, Suppliers should include a copy of their current ISO 9001, AS9100, or TS16949 certification in their bid package. Suppliers lacking current certification should send a copy of their Quality Manual with their bid package.

5.0 Parts/Assemblies to be manufactured, Quantity Required, and Inspection requirements:

Note: refer to Section 8.0 for delivery schedule and location

Drawing #	Part Description	Total Qty:	AQL number (Inspection Frequency)
LIGO-D2000478-v1	Secondary Viewport Clamp	2	1.0
LIGO-D2000479-v1	Enclosure, Bellow Adapter	2	1.0
LIGO-D2000480-01-v1	SM1 Azimuth Support Bracket, Configuration 01	2	1.0
LIGO-D2000480-02-v1	SM1 Azimuth Support Bracket, Configuration 02	2	1.0
LIGO-D2000481-v1	Brace, Upper Periscope Mirror Adapter	2	1.0

Note: refer to [LIGO-Q110003-v1](#) for the AQL table.

6.0 Manufacturing:

6.1 Requirements:

Suppliers must refer to the LIGO Specifications referenced in Section 3 for additional, and in some cases, non-industry standard requirements.

6.2 Sub-Contracted Work:

- LIGO expects that at least 2/3 (by dollar value) of the contracted work be performed by the Supplier named on the Purchase Order. The Supplier shall be responsible for all sub-contracted work.

6.3 Precedence:

The drawings typically represent the finished part as needed for use in service. There may be requirements on the drawing (such as coatings) which are specifically defined as not the responsibility of the supplier in this SOW. Suppliers should always contact a LIGO representative to resolve any discrepancies uncertainties in the documentation or instructions.

6.4 Special Instructions:

- Viewport feature design guidelines can be found in document [LIGO-T1100346-v2](#) and should be used where applicable.

6.5 Exclusions:

- Supplier is NOT responsible for the procurement and installation of Heli-Coils.

8.0 End Item Data Package:

Before delivery of the parts, the Supplier shall provide the following data, as a minimum:

- Any as-built modifications (with approval of the LIGO Contracting Officer) as mark-ups to the drawings
- Material certifications
- Inspection reports of all dimensional features for the number of parts specified per the AQL number and referenced in the AQL table [LIGO-Q1100003-v1](#) and any other inspection requirements detailed in Section 5 of this SOW
- Certificate of compliance for each part number stating conformance to contract and drawing requirements

8.1 Shipping Containers and Packaging:

The contractor is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.). Mating edges of parts should be especially protected from damage during shipping.

8.2 Shipping Destination(s):

The deliveries are FOB at these destinations, i.e. the Supplier has the responsibility for shipping title and control of goods until they are delivered and the transportation has been completed. The contractor selects the carrier and is responsible for the risk of transportation and for filing claims for loss or damage.

These items will be shipped to the two LIGO sites (LLO and LHO) with a 50/50 split:

LIGO Livingston Observatory (LLO)

Attn: Matt Heintze
19100 LIGO Lane
Livingston, LA 70754

LIGO Hanford Observatory (LHO)

Attn: Betsy Weaver
127124 North Route 10
Richland, WA 99354

8.3 Delivery Schedule:

4-6 weeks or best effort ARO. If unable to meet this timeline, please indicate alternate timeline.