



Statement of Work Fabrication of Output Mode Cleaner Optics

The following documents are incorporated into and made a part of this purchase order. Click on the following LIGO Document Control Center (DCC) links to access these documents or go online 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-v5	Technical Direction Memorandum.

2.0 End Item Data Package:

At the time of delivery of the parts, the Supplier shall also provide the following data, as a minimum:

- Any as-built modifications (with approval of the LIGO Contracting Officer) as mark-ups to the drawings
- Certificate or statement of compliance with all contract and drawing process restrictions.
- Test data for the parts, as described in the coating and substrate specifications E1101086 and E1101095.

3.0 Scope:

This SOW is for the manufacture, test, and delivery of coated optical “prisms” and curved optics, to be used by the Customer in high finesse, low loss cavities. The properties of the substrates and coatings are fully described in:

<u>DCC #</u>	<u>Description</u>
E1101086-v5	Specification for OMC Optical Prisms
E1101088-v4	Specification for OMC Curved Optics
E1101095-v3	Specification for OMC Optical Coatings
D1101968-v3	Machine Drawing for OMC Optical Prisms

If there is a conflict between the SOW and the specification, the specification has precedence.

Coating specifications

A best effort should be made to achieve an exact 2:1 ratio for the transmission of Coating A (“Input/Output Coupler”) to the transmission of Coating D (“Asymmetric Output Coupler”); i.e., we desire: $T_A / T_D = 2$. The transmissions of the “Input/Output Couplers” should also be matched to each other, as best as possible. The quotation should therefore address the bidder’s capabilities to match the transmissions and the expected tolerance.

For Coatings A & C, the specifications given at 45 degrees angle-of-incidence (AOI) should be considered secondary to the specifications at 4 degrees AOI. They may be subject to iteration, based upon manufacturability.

4.0 Quantity Required:

Substrates:

Drawing Number	Description	Quantity
E1101086	Optical Prisms	50
E1101088	Curved Optics	25

Coatings:

Coating Type	# Prisms	# Curved optics
A Input/Output	20	0
B Beam splitter	12	0
C High reflector	18	13
D Asymmetric output	0	12

Small adjustments to these quantities may be made based on the lot size of the Supplier, in order to make most efficient use of the Supplier's capabilities. Therefore the quotation should include information about the bidder's lot or batch size for parts processing.

5.0 Delivery Requirements:

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

The shipping location (within the continental US) is still to be determined.

Shipping Containers:

The Supplier is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.) and maintains their cleanliness in their original condition.

6.0 Delivery Schedule:

Partial delivery is acceptable and should be negotiated according to the capabilities of the Supplier. If batch orders or lot sizing is relevant, such information should be included in the quotation. However, final delivery is required by August 1, 2012.