

Advanced LIGO Engineering Change Request (ECR)

ECR Title: ECR: Reversal of wedge orientation for hanging PR3-01 in H1.

DCC No: E1201105-v1

Date: 12 Dec 2012

Requester: Norna
Robertson

Impacted Subsystem(s): SUS,
IO

Description of Proposed Change(s): We propose to hang the optic PR3-01 in H1 with the thick end of the wedge at the top. This is the opposite of the design direction of the wedge as captured in E0900342. That document states arrow at top, where the arrow is at the thin end of the wedge as per substrate drawing D080662.

Reason for Change(s):

This optic was damaged (small cracks) when a metal prism was knocked off. Options for how to proceed were discussed in T1200494. We concluded that the best way forward was to hang the optic upside down relative to the design orientation to avoid regluing a prism on a weakened area. It was confirmed with the IO group that this has no negative implications for the position of any transmitted beam and associated baffling since there is no appreciable transmitted beam from this optic and hence no baffling is used.

Estimated Cost: no further costs involved.

Schedule Impact Estimate: We estimated a few days longer to carry out the gluing than the other options considered (see T1200494).

Nature of Change (check all that apply):

- Safety
- Correct Hardware
- Correct Documentation

- Improve Hardware
- Improve/clarify Documentation
- Change Interface
- Change Requirement

Importance:

- Desirable for ease of use, maintenance, safety
- Desirable for improved performance, reliability
- Essential for performance, reliability
- Essential for function
- Essential for safety

Urgency:

- no urgency
- desirable by date/event: _____
- Essential by date/event: _____
- Immediately (ASAP)

Impacted Hardware (select all that apply):

- Repair/modify. List part & SNs: PR3-01_____
- Scrap & Replace. List part & SNs: _____

Impacted Documentation (list all dwgs, design reports, test reports, specifications, etc.):

D0901086, possibly others?

- Installed units? List IFO, part & SNs: _To be installed in HAM2 at LHO_____

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Future units to be built

Disposition (to be completed by Systems Engineering):

TRB

CCB

Approved

Additional information required. Define:

[Requester re-submits with new information with the same DCC E-number for the ECR but the next version number.]

Concurrence by Project Management: (Acknowledged Electronically in DCC)

Project Systems Engineer: Dennis Coyne

Project Systems Scientist: Peter Fritschel