

Advanced LIGO Engineering Change Request (ECR)

ECR Title: Decommission HAM-ISI Optical Levers

DCC No: E1700123-v1

Date: 10 April 2017

Requester: P. Fritschel

Impacted Subsystem(s): ISI

Description of Proposed Change(s):

Remove all exo-vacuum hardware for the optical levers associated with the HAMs 2, 3, 4, and 5 ISI platforms. This includes (not a complete list): fiber-coupled diode lasers; beam expanders; quad photodetectors; whitening/VGA chassis; pico-motorized mirror mounts; removal of cabling is optional.

In addition, during an appropriate corner station vent, remove the mirror mounts used for these optical levers: one each on HAMs 2, 3, 4, & 5. The mounts are Siskiyou 2" kinematic mounts, and they can be put into the general stock for use elsewhere.

Reason for Change(s):

These optical lever monitors are not used for anything (and never were, as far as I can tell). Once un-installed, the hardware can be used as spares stock and for furnishing the 3rd interferometer inventory. We also free up ADC channels, to support ECR E1700122.

Estimated Cost: No hardware costs. Labor to de-install, maybe 1 person day. Labor to modify drawings, maybe 1 person day.

Schedule Impact Estimate: In-vacuum removal will occur between O2 and O3. Other work to be scheduled at each observatory as appropriate.

Nature of Change (check all that apply):

Safety

Correct Hardware

Correct Documentation

Improve Hardware

Improve Software

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)

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Impacted Hardware (select all that apply):

- Repair/Modify. List part & SNs: _____
- Scrap & Replace. List part & SNs: _____
- Installed units? List IFO, part & SNs: _____
- Future units to be built

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

D1002740, D1000599, D0902810

Impacted Software (list all that apply):

Disposition of the proposed change(s):

The disposition of this proposed engineering change request is to be completed by Systems Engineering and indicated in the “Notes and Changes” metadata field in the DCC entry for this ECR. The typical dispositions are as follows:

- **Additional Information Required:** in which case the additional information requested is defined. The ECR requester then re-submits the ECR with the new information using the same DCC number for the ECR but with the next version number.
- **Rejected:** in which case the reason(s) for the rejection are to be given
- **Approved**
- **Approved with Caveat(s):** in which case the caveat(s) are listed
- **TRB:** the ECR is referred to an ad-hoc Technical Review Board for further evaluation and recommendation. It is the System Engineer’s (or designee’s) responsibility to organize the TRB. The System Engineer (or designee) then makes a technical decision based on the TRB’s recommendation. Links to the TRB’s documentation (charge, memos, final report, etc.) are to be added to the “Related Documents” field for this ECR.
- **CCB:** a change request for approval of additional funds or schedule impact is to be submitted to the Configuration Control Board. Links to the CCB’s documentation (CR, etc.) are to be added to the “Related Documents” field for this ECR.

Concurrence by Project Management:

Acknowledgement/acceptance/approval of the disposition is to be indicated by the electronic “signature” feature in the DCC entry for this ECR, by one the following personnel:

- Systems Scientist
- Systems Engineer
- Deputy Systems Engineer