

Advanced LIGO Engineering Change Request (ECR)

ECR Title: Change Locating Dimensions of Pcal Transmitter and Oplev/Pcal Receiver Installations in all End VEAs

DCC No: E1200989-v1

Date: 14 NOV 2012

Requester: Craig Conley

Impacted Subsystem(s):

AOS (Pcal & Oplev)

Description of Proposed Change(s): Relative to current documentation (uncontrolled drawings G1000701-v1, G1000702-v1, G1000719-v2, G1000739-v2) for positions and orientations of pending Oplev/Pcal installations in the End VEAs, the following changes are necessary and concur with RODAs M1200020 and M1200350 which regard these installations. The paraphrased documents above were last revised between 7/2010 and 10/2010.

-Pcal Transmitter Installations: Pylons must be rotated 30 degrees so that the nearest pylon face to the view port is parallel to the view port flange face. Modules (Breadboard, Optical components, etc.) must be rotated 90 degrees. Positional dimensions are affected by system design changes and as stated above will concur with RODA [M1200350](#).

-Oplev/Pcal Receiver Installations: Placement distance of the pylon laterally from the IFO arm is affected by system design changes and as stated above will concur with RODA [M1200020](#).

NOTE- It may be necessary to revise the Oplev Receiver Enclosures (D1100342) as their apertures are taken off center with their respective view port flanges by the positional shift of the Oplev/Pcal Receiver Installations.

ALSO NOTE- Confirmation should be sought from the Oplev group that no adverse effects result to Optical Lever Receivers beyond that noted above.

Reason for Change(s): In order to insure proper installation of all Pcal systems, the noted documents must reflect Pcal system design changes which have developed since their latest revisions (of time-frame 7/2010 to 10/2010). Namely, Pcal launching and receiving beam path directions have changed, requiring revised positioning of the Transmitter and Receiver Installations.

Estimated Cost: \$2000

Schedule Impact Estimate: 1-2 weeks. Drilling of anchor holes is on hold for the changes mentioned.

Nature of Change (check all that apply):

- Safety
- Correct Hardware
- Correct Documentation

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

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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: 14 NOV 2012
- Essential by date/event: _____
- Immediately (ASAP)

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.): Previously uncontrolled drawings [G1000701](#), [G1000702](#), [G1000719](#) & [G1000739](#) updated under DCN [E1200996](#).

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