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| **ECR Title:** ECR - Upgrade of ISS PD Array lid | DCC No: E1300662-v1 |
| Date: 8/21/2013 |
| **Requester:**  Calum Torrie Rich Abbot  and Jan Poeld | **Impacted Subsystem(s): INS** |  |
| **Description of Proposed Change(s):** Proposed changes:From: - which doesn’t fit To: - this concept which does fit. |
| **Reason for Change(s):** Refer to <https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=157>The original driver for this modification to the lid was because it did not fit, which means it does not prevent stray light entering the array. The mis-fitting lid becomes mis-fitting as a result of direct interference with the QPD.As a point of note the LLO array does not have a lid at this point. The LHO array is not yet installed.Since the lid needs to be made larger for the reason outlined above there is a proposal to explore the possibility of also lifting the QPD higher in the assembly. Why? (The following is from Jan Poeld.)The problem with it in the current design is that it is not in the same plane than the 8 main PDs. Therefore it does not see the actual movement of the beam on the main PDs. Since the idea is that the initial alignment is done by centering the beam on the QPDs, I think it is essential to do this modification and lift the QPD as shown in the sketch above.  |
| **Estimated Cost:**$500 to $1000 for all 3 interferometers. |
| **Schedule Impact Estimate:**None. |
| **Nature of Change (check all that apply):****[ ]** **Safety****[x]  Correct Hardware****[ ]  Correct Documentation** | **[ ]  Improve Hardware****[ ]  Improve/Clarify Documentation****[ ]  Change Interface****[ ]  Change Requirement** |
| **Importance:****[x]  Desirable for ease of use, maintenance, safety****[x]  Desirable for improved performance, reliability****[ ]  Essential for performance, reliability****[ ]  Essential for function****[ ]  Essential for safety** | **Urgency:****[ ]  No urgency****[x]  Desirable by date/event: Sept 2013****[ ]  Essential by date/event: \_\_\_\_\_\_\_\_\_\_\_\_****[ ]  Immediately (ASAP)** |
| **Impacted Hardware (select all that apply):****[x]  Repair/Modify. List part & SNs:** **[ ]  Scrap & Replace. List part & SNs:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****[x]  Installed units? List IFO, part & SNs:****[ ]  Future units to be built** | **Impacted Documentation** (list all dwgs, design reports, test reports, specifications, etc.): |
| **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
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