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| **ECR Title: ECR:** **Fiber Polarization Correction** | DCC No: E12xxxxx-vx |
| Date: 10/2/2012 |
| **Requester:** Daniel Sigg | **Impacted Subsystem(s):** ISC |  |
| **Description of Proposed Change(s):** Add a motorized polarization controller at the launch point of the fibers (MSR).Add a polarizer and a sampler to each fiber exit port in the end stations. |
| **Reason for Change(s):** We observed during OAT that the polarization of the fiber beam on ISCBT10R changed slowly over time. This required us to manually adjust a halfwave plate. Worse, we had no diagnostics to indicate the problem. Adding a polarizer and measuring both the passed-through and the rejected beam will remedy this problem. Adding a motorized polarization controller further allows us to correct for polarization drift automatically. |
| **Estimated Cost:** Fiber Control MPC1-2-2-2-FC-UPC-R (3 dual channel units): 34,500Optics (polarizer, sampler, mounts): $4,800Total: $39,300 |
| **Schedule Impact Estimate:** None. |
| **Nature of Change (check all that apply):****[ ]** **Safety****[ ]  Correct Hardware****[ ]  Correct Documentation** | **[x]  Improve Hardware****[ ]  Improve/clarify Documentation****[ ]  Change Interface****[ ]  Change Requirement** |
| **Importance:****[ ]  Desirable for ease of use, maintenance, safety****[ ]  Desirable for improved performance, reliability****[x]  Essential for performance, reliability****[ ]  Essential for function****[ ]  Essential for safety** | **Urgency:****[ ]  no urgency****[ ]  desirable by date/event: \_Feb 2013\_\_\_\_****[ ]  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.):D1100607, MSR drawing |
| **Disposition (to be completed by Systems Engineering):****[ ]  TRB****[ ]  CCB****[x]  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)**

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| **Project Systems Engineer**: Dennis Coyne |  | **Project Systems Scientist**: Peter Fritschel |  |

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