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| **Change Request No.:** LIGO-R1300030 | | Date: 2 December 2013 | |
| **Change Request Title:** Vacuum Control System Upgrade | | | |
| **WBS Element Title (number):** | | | |
| **Originators:**  Richard McCarthy,  David Barker | **Telephone:** | **CCB Sponsor:** Fred Raab | |
| **Technical Change Description:** The initial Vacuum Controls Systems (VCS) were installed at the Livingston and Hanford observatories in 1997. These systems are now aging and require replacing to permit their continued operation for the next 15 years.  For minimum Operational impact and Schedule impact I recommend installing a new Beckhoff PLC style control system to replace the existing VME based system. This upgrade will interface directly with the existing cabling that is currently installed. We would unplug and remove VME system then install new Beckhoff system and do signal checks.  The recommendation is to do this at both LHO and LLO  Requirements in T1300195  Related Documents: R1300025,M1300166 (page5, #18)  To make it a standalone system we will install Touch Panel computers in the racks ~$7k/rack  Slow controls Chassis using the same as ISC slow controls. $700/Rack  Beckhoff Control Modules. LHO $24K LLO$16.2k | | | |
| **Budget Impact:** LHO $85k LLO without Midstations $65k | | | |
| **Schedule Impact:** I believe we can replace one racks worth of electronics a day minimizing the down time for data to one day per rack. The installation can be done building by building minimizing the data and monitoring downtime. | | | |
| **Concurrence:**   |  |  |  |  | | --- | --- | --- | --- | | MIT: | Yes No Abstain | Controls and Data Acquisition Engineering | Yes No Abstain | | Hanford Observatory: | Yes No Abstain | Instrument Science: | Yes No Abstain | | Livingston Observatory: | Yes No Abstain | Data Analysis Science: | Yes No Abstain | | Systems, Mechanics and Optics Engineering | Yes No Abstain | Laboratory Computing: | Yes No Abstain | | | | |
| **Approval/Disposition (CCB Chairman):** | | | Date: |

**Additional Information**