

#	Priority	Description	Holding this review?	Punch-list	Assigned or Action	Installation Subset	Assignee	Due	Notes
1	H	Visual inspection of view-ports in-situ was not complete refer to bug list. Bug 761 https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=761 . View-ports are also not in ICS. This should be completed as part of inventory.	No	Yes	Project	All Chambers	Oram	01-Oct-14	Romie 2014-09-17: will have an updated & uploaded version of the E1200445 LLO Viewports Status, with copious comments by the end of this week. Oram 2014-09-15 LLO has now inspected 47 out of 92 viewports which is 51%. See link to DCC document. https://dcc.ligo.org/LIGO-E1200445 .
2	M	Phase 3 testing on Op Lev was not complete.	No	Yes	Project	All Relevant Chambers	O'Reilly	01-Oct-14	O'Reilly 2014-09-16 Mike Vargas is working on testing and has a living document T1400393 in the dcc. I have asked Mike for a concise summary also. The oplevs continue to be an issue, due to glitching. So I expect completion will take a while, and may go past system acceptance.
3	H	The ESD system is still undergoing installation and should not be evaluated at this time. That said, there are short circuits in the cabling-connectors. Determine approach to outstanding integration issues and characterize system as-is. Covered by 907 for short to shield	No	Yes	Project	BSC4, BSC5	Romie	01-Oct	Rich Abbott 2014-09-17: Two people are working this issue (Mohana and Eddie Sanchez). Result very soon. O'Reilly 2014-09-16: I think the wiring is functional and safe at the moment, but not final.
4	M	There are many references to G1001032. It is not clear whether this document will be brought to completion and maintained at both sites. So, it might be worthwhile before the systems review to either finish it at both sites, or omit it from LLO documentation. In either case, a blanket reference to it is less helpful than would be a pointer to the particular racks referred to in the particular review document. Choose uniform approach.	No	Yes	Project	General Note	Coyne	01-Oct-14	17-Sep-2014 David Shoemaker & Dennis Coyne have asked Keith Thorne (CDS Operations lead) to discuss the completion of documentation for as-built electronics at the rack level for both LHO and LLO, and come to a set of recommendations on the following points at next week's CDS meeting (9/24): 1) Many of us like the format and convenience of G1001032. Should the LLO document G1001032 be completed and maintained? 2) If G1001032 isn't completed or maintained, what is the alternate (preferred) approach to collecting and maintaining the as-built electronics record at the rack level? 3) Is G1001032 redundant? In other words is G1001032 a more convenient presentation of the data which is already captured in other documentation (e.g. rack dwgs plus DCC links to S# entries)? 4) Uniformity of documentation and standards is strongly preferred. Should LHO should be allowed to maintain a different approach to documenting the as-built reference for the electronics? If so, what is the reason for allowing for a difference? (e.g. to trial an alternate approach) 5) Should we switch from PowerPoint to a different, more appropriate tool, such as yWorks, or Visio? 6) We must maintain the as-built/installed record of the electronics. Is the labor cost of maintaining this record in the format of G1001032 (or similar format) significantly more work than any other means? 7) It is best to have only "one set of books". If we commit to the G1001032 approach, should we make other data sets obsolete, so as not to have to record the same data twice? Alternatively the rack dwgs and the S# linkage could be considered the primary source data and the G1001032 document could be considered a convenient, secondary projection of the data in a more convenient format.
5	L	Bug 20. No ESD on ITM's. Refer to LIGO-L1200291-v5 for Dennis Coyne's comments from 4/23/2014. The aLIGO project may decide to implement the change/correction for the L1 ITMy CP in order to make the ITMy ESD operational. However it does not currently appear to be necessary for completion of the project. This deviation from intended design/implementation shall be noted in the acceptance documentation so that we don't forget the discrepancy. However for the time being no correction for the L1 CPy will be pursued	No	Yes	Ops	LBSC1	Closed		
6	L	We also note that the cable to connect the ESD for ITMY is not in place. I tried to find the relevant log entry. But I believe that we changed out the feedthrough for a blank because the feedthrough was leaking. I need to add a note to the LBSC1 issue tracker, but want to find some log entry first.	No	Yes	Ops	LBSC1	Closed		
7	M	Bug 615 "Unresponsive GS13 (V2) on ITMY (BSC1)"	No	Yes	Ops (unless opportunity arises). Joe G notes this is a concerning item!!!	LBSC1	Closed	20-Sep	2014-09-17: the bug tracker notes that this sensor is now working (https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=615). Dhs asked Adrien for an update.
8	M	Note that this ICS entry is screwed up. It has LHAM1, LHAM3, LHAM5, LHAM6, LBSC1 and LBSC3 chamber assemblies all as indented under BSC-ISI Unit 1, which in turn is under LBSC2 chamber. The LBSC1 chamber assembly is missing the TCS optics. Use the serial number tracking memo M1000051 as a guide for deciding what is essential.	No	Yes	Project	LBSC1	O'Reilly	01-Aug-14	2014-09-17 Brian O working actively
9	H	E1300847-v7 is missing reference to a BS Optical Lever testing report	No	Yes	Project. Op Lev Report - This is on Op Lev Punch-list (Eric G running)	LBSC2	Gustafson	15-Sep-14	Vargas 2014-09-14: The testing of the BS OpLev has not been completed. The laser is still glitching, and commissioners have asked us to not adjust it until a laser has been found to have glitch free and can be swapped in. Such a laser has not been found, but a thermally isolated laser is being prototyped in the HAM4 OpLev and may soon be used for the BS. Gustafson 16aug14: As of July 8, 2014 the ETMs, ITMs, PR3 and SR3 had been calibrated and measured at LLO. HAM2, 3, 4 and 5 and the BS Optical Levers had not been calibrated and measured. (although at some time several of them were probably measured and then later reinstalled to facilitate other installation activities.) I think by the middle of July the grouting at LLO was completed. So they are all being remeasured. Mike Vargas is tracking the progress on bringing up the the optical levers at LLO in T1400213. I don't believe the grouting at LHO is completed and it is likely that all of the Optical Levers will have to be remeasured. This activity is being tracked by Doug and Jason in T1400160.
10	M	There are some issues with the ICS entry for D0900428 for LBSC2. Some TCS and SLC records have been added but do not appear. Still need to add viewports, Oplev periscope and perhaps misc. other items to the ICS records.	No	Yes	Project. Note that this could be done now if person could be identified.	LBSC2	Romie	30-Sep-14	Romie 18 Aug 14: 10 & 19, are dependent on the upgrade to the ICS system, which happened; if you put Sept 30th for the due dates for both of these punchlist items, we should be able to meet this.
11	M	Baffling of the BS. Bug 505. Currently re-designing on Ops. Plan to install at next opportunity.	No	Yes	Ops (unless opportunity arises)	LBSC2	Gustafson	Opportunity	Gustafson 16aug14: Bug 505 is drift of Beam Splitter during PRMI carrier lock. The design work is completed, the baffles have been fabricated and installed at LHO and it is planned to install the baffles at LLO at the next reasonable opportunity.
12	M	Note that this ICS entry is screwed up. It has LHAM1, LHAM3, LHAM5, LHAM6, LBSC1 and LBSC3 chamber assemblies all as indented under BSC-ISI Unit 1, which in turn is under LBSC2 chamber. The LBSC1 chamber assembly is missing the TCS optics. Use the serial number tracking memo M1000051 as a guide for deciding what is essential.	No	Yes	Project	LBSC3	Brooks	15-Sep-14	DHS tasked Brooks on 7 Sept 14; Brooks says I'll get you an answer within a couple of days as to how we plan to address it.
13	H	Bug #738. SEI Cable. Plan to fix at next opportunity.	No	Yes	Performed at next opportunity	LBSC4	Closed		Fixed; see https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=738
14	H	Bug 856. ESD short in vacuum (or in the feedthrough)			copy from above	LBSC4	Closed		
15	H	IR QPD failure on the TMS; establish the status, file bug if needed	No	Yes	Project	LBSC4	Closed		2014-09-15: Valera says addressed in recent vacuum incursion.
16	H	a stuck pico-motor; bugs #887 and #848	No	Yes	Project	LBSC4	Closed		Closed.
17	H	Bug #80. Possibility of damage to ESD pattern on ERMs and CPs due to arcing. An interlock system based on vacuum pressure is installed and working at LHO. The LLO vacuum pressure sensors leak. In addition the LLO vacuum engineer has concerns about the chosen pressure gauges, so an alternate sensor is being sought. Modifications to the electronics may be required.	No	Yes	Project	LBSC4 and LBSC5	Closed		2014-09-18 Carl Adams says updated the status of the LLO ESD install as complete for the ECR https://dcc.ligo.org/LIGO-E1300140-v1 . (LHO needs to follow up)
18	H	Bug 878. ESD short in vacuum (or in the feedthrough) (similar to bug 856 for LBSC4, but a different pin)	No	Yes	Project	LBSC5	Closed		2014-09-17 Fixed, as recorded in https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=878
19	M	ICS Record is lacking.	No	Yes	Project	LHAM1	Romie	01-Oct-14	Romie 18 Aug 14: 10 & 19, are dependent on the upgrade to the ICS system, which happened; if you put Sept 30th for the due dates for both of these punchlist items, we should be able to meet this.
20	H	LHAM1 HEPI has not yet been commissioned.	No	Yes	Project	LHAM1	Aston	01-Oct-14	Aston 16aug14: No progress to report yet on HAM1 or HAM6 HEPI's. So far it has not been necessary for IFO locking and commissioning activities. However, there will imminently be a push to complete both of these tasks (HAM1 first, followed by HAM6), over the next month or so. Therefore, would it be possible to revise the completion dates, as follows:- LHAM1 HEPI - September 12th LHAM6 HEPI - September 26th
21	L	HAM1 installation & alignment documents missing. Write HAM1 INS doc and cite E1300857, aLIGO ISC Custom Optics Requirements" within.	No	Yes	Project	LHAM1	O'Reilly	01-Oct-14	2014-09-17 O'Reilly will see if I can either get enough information locally to make this record, or else ask Rich Abbott or Peter F. for help.
22	M	LHAM2: The two IO Tables, IOT2L and IOT2R, are supposed to be defined in: D0902284-v11, IO Table Layouts for IOT2L and IOT2R ("current default layouts", i.e. initial layouts), but only the layout for IOT2L is provided in the DCC. The initial layout for IOT2R is missing. In addition, the final, as-built layouts for the two IO Tables are to be provided in D1300356, As Built Layouts for ALIGO L1 IOT2L and IOT2R. D1300357, As Built Layouts for ALIGO H1 IOT2L and IOT2R which implies that the layouts will be different for the two IFOs. They should be the same, with small dimensional differences included as notes on the same common drawing. In addition, both of these drawings are missing in the DCC.	No	Yes	Project	LHAM2	Gustafson	01-Oct-14	Generalize to the need to get all information from UF. Eddie Sanchez to help
23	M	Two S# documents have been filed with the same rack designation (L1-SUS-R1): S1200749 and S1200523. One must be incorrect. Resolve the discrepancy.	No	Yes	Project	LHAM2	Adams	20-Sep-14	2014-09-17: Carl confirms duplication, has noted it in the file card, and will request that the DCC Administrators eliminate one.
24	M	The DCC entry for S1200744 for rack L1-SEI-C2 is empty.	No	Yes	Project	LHAM2	Adams	20-Sep-14	2014-09-14 dhs: asked Carl for update
25	H	ISS PD Array. Currently re-designing on Ops. Plan to install at next opportunity. An ECR (and bug) will be issued very soon. Integrate into planning	No	Yes	Performed at next opportunity	LHAM2	Closed		Closed; refer to 26

26	H	Testing-PSL ISS outer loop PD array test plan must be developed and then exercised for both LHO and LLO	No	Yes	Project	LHAM2	Savage	15-Sep-14	<p>Heintze 7 Sept 14: Anticipates a vacuum incursion to install ISS array and matching after LHO has shown validity of the solution. Janeen to schedule. Rick Savage 14Aug14: PKing has fabricated and aligned a sufficient number of arrays for LLO and spares. All assembly and alignment work should be complete by the end of the month.</p> <p>Still need to ship to LLO. May need to fab a shipping container.</p> <p>Matt Heinze trained on installation while at LHO recently. He will lead installation effort at LLO.</p> <p>Need to procure lenses, pico-motors, etc. for duplicating modermatching solution at LHO (I will check with Calum Torrie)</p> <p>Need to design and fab. strain relief for array cables, then implement at LLO (and upgrade LHO if opportunity arises). Rick to coordinate with Calum.</p> <p>Need to install and cable transimpedance amplifiers at LLO (I will check with Mike Fyffe/Matt Heinze)</p> <p>Need to duplicate pointing sensitivity measurement setup at LLO to check before installation (Olli Puncken's document LIGO-E1400314-v1 has details. Matt to procure?). Need to find out from Brian O'Reilly/Valera Frolov when HAM2 vent possible/likely at LLO.</p> <p>Continuity test on installation, just before closing to make sure that cable connections are intact.</p> <p>2nd loop servo electronics need to be installed and tested.</p> <p>Fabrication and testing by PKing complete.</p> <p>Rick to check with PKing regarding installation and cabling at LHO and status at LHO.</p> <p>Testing of ISS outer loop performance by integration/commissioning team.</p>
27	M	Fix ICS entry which is screwed up. It has LHAM1, LHAM3, LHAM5, LHAM6, LBSC1 and LBSC3 chamber assemblies all as indented under BSC-ISI Unit 1, which in turn is under LBSC2 chamber. The LHAM5 chamber assembly only has the SR3, SRM and cable information. Use the serial number tracking memo M1000051 as a guide for deciding what is essential.	No	Yes	Project	LHAM5	O'reilly	01-Oct-14	2014-09-17 O'Reilly working through each chamber right now
28	L	Bug #175. SR3 magnet off opt. Won't fix now.	No	Yes	Ops	LHAM5	Bug	Opportunity	2014-09-17 proper bug number is https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=826 . To be repaired at a target of opportunity.
29	L	Bug #82. The OFI unit in LHAM5 is not in accordance with the final design (it has a light weighted bench and lower structural resonances). We do not plan to swap out to the final design unless an serendipitous opportunity arises, or we find that the resonances are a problem. (N.B.: Bug 82 is missing from LHAM5 report.)	No	Yes	Performed at next opportunity, if conclude needed	LHAM5	Bug	Opportunity	2014-09-17 proper bug number is https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=826 . To be repaired at a target of opportunity.
30		Bug 214 may also apply here. (see comment below in LHAM6)	No	Yes	Project	LHAM5	Closed		2014-09-17 Bug tracker concludes 'Works for me'.
31	L	ICS Record is lacking for HAM6, in particular for ISC	No	Yes	Project	LHAM6	Closed		Closed. Refer to 27
32	H	LHAM6 HEPI has not yet been commissioned.	No	Yes	Project	LHAM6	Romie	20-Sep-14	2014-09-18 see installation complete 10 sept https://alog.ligo-la.caltech.edu/aLOG/index.php?callRep=14444_dhs queried Janeen and Adrien
33	L	-only ISI installation document/HA given; please note explicitly there is no installation procedure written for HAM6 optical components like the OMC. For such a critical part, we must add to the punchlist for India the writing of a procedure (low priority). Refer to E1300857, aLIGO ISC Custom Optics Requirements" within. Refine LHO installation document to a suitable level and standard format.	No	Yes	Project	LHAM6	Gushwa	15-Sep-14	Torrie 19Aug14: Gushwa tied up. Looking for alternative approach.
34	L	As-built alignment procedure: was there an exhaustive search of the aLOG for alignment aLOGs? This might be a particularly useful aLOG to record As there is no baseline alignment procedure in existence. Generate an alignment procedure for HAM6	No	Yes	Project	LHAM6	Closed		Done. PF 12 Sept 14: Koji has written a HAM6 alignment procedure
35	L	Bug 214. The beam was missed OM1 in LHAM6 using the nominal drawing locations. The position of OM1 was changed to make the system wok. The drawing discrepancy is not yet understood.	No	Yes	Ops	LHAM6	Closed		2014-09-17 Bug tracker concludes 'Works for me'
36	M	Missing rack S-number documents and drawings. Specifically: S1202977 and D1201118 for L1-PSL-C1 S1202978 and D1201120 for L1-PSL-R1 S1202979 and D1201121 for L1-PSL-R2	No	Yes	Project	PSL	Closed		Kinzel 15Aug14: Done.
37	M	Bug 41 Environmental testing/characterization (temperature, humidity, particulate levels, etc.) for the LAE must be documented	No	Yes	Project	PSL	Closed		2014-09-17 per bug tracker.
38	M	1) We need a hierarchical list of aLIGO-provided VE modifications, for the components that were actually installed at LLO, listing the makes/models, installation location, drawings, serial number (if applicable), and any test results. Links to the aLOG are OK, but they need to be described and to refer to specific entries. Document as needed.	No	Yes	Project (gather while chance exists)	Ops	O'reilly		2014-09-18: Queried Brian
39		Gather test information on all gas-containing ISC components at LLO	No	Yes	Project (gather review documentation and post)	VE	Closed		Torrie 18Aug14: Done.
40	H	Brian, Calum, Dennis to update installation documentation with the notes found by the reviewers (these notes which are not part of the punch-list can be found in the additional tabs of this excel sheet.)	No	Yes	Project	All Chambers	O'Reilly	01-Aug-14	
41	H	Clean up and resolve balance of TCS activities; complete stand-alone testing in feasible measure.	No	Yes	Project	TCS (LHAM4, LBSC1, LBSC3)	Brooks	01-Oct-14	2014-09-18 Brooks: All TCS installation activities are complete at LLO (save for installing the IR camera onto the CO2-X table). Most of the data channels are calibrated but some are still needed. We have completed roughly 16 of the 22 installation tests listed in T1300495. TCS Guardian still needs to be implemented at LLO (although this may be viewed as an on-going commissioning activity).