Status of SUS Individual Acceptance Reports   T1400181-v16
Norna A Robertson   Calum I Torrie
6th June 2014

item number	SITE	Suspension Type	Suspension name	report DCC #	Filecard prepared	Review started	Approved	Count	Punchlist Items*,**	Update on Punchlist Status	Items to Complete before Acceptance?	Assignment of punchlist to aLIGO Project or Ops (project unless stated) and status	Assignee	Due Dates	Punchlist Closed	Open Bugzilla references
1	LHO-H1	QUAD	H1 ITMX	E1400146							not reviewed yet					
2		QUAD	H1 ITMY	E1400147							not reviewed yet					
3		QUAD	H1 ETMX	E1300908	yes	yes	yes	1		(For completeness - info on optics, ears and fibers has been added to ICS entry - not noted on punchlist)	NO	N/A			YES	
4		QUAD	H1 ETMY	E1300866	yes	yes	yes	1		(For completeness - info on optics, ears and fibers has been added to ICS entry - not noted on punchlist)	NO	N/A			YES	
5	LHO - 3rd IFO	QUAD	3rd IFO ITMX	E1400148							not reviewed yet					
6		QUAD	3rd IFO ITMY	E1400149							not reviewed yet					
7		QUAD	3rd IFO ETMX	E1400150	yes						not reviewed yet					
8		QUAD	3rd IFO ETMY	E1400151							not reviewed yet					
9	LLO-L1	QUAD	L1 ITMX	E1300916	yes	yes	yes	1			NO	N/A			YES	758: L1 ITMX L2 (PUM) LL OSEM magnet & flag alignment stability
10		QUAD	L1 ITMY	E1300917	yes	yes	yes	1			NO	N/A			YES	
11		QUAD	L1 ETMX	E1400080	yes	yes	yes	1			NO	N/A			YES	680: LBSC4 Quad has a bad BOSEM L1 UR
12		QUAD	L1 ETMY	E1400131	yes	yes	yes	1	1) Need "excel spreadsheet" with input data from build and or other information from fiber, ears, optics etc ... 2) No electronic rack data presented in a traditional sense. However, if one goes to S1202953 (as below) the content of the rack are the related document. Included for completeness and to spell out technique used. Included in punch-list to confirm this is good. 3) Attach link to alog for violin mode measurements. Calibrated OSEM sensor ASDs Page 12 of 1st document	Item 1) Info on fibers etc added to ICS and info on total mass added to ICS. Item 3) DONE S.Aston - 04/07/2014	NO	All closed			YES	
13	LHO-H1	BS	H1 BS	E1300712	yes	yes	yes	1	in alog entry 7723, we see excess motion with control loops on. It's difficult for the casual observer to understand why. Arnaud can retake data after vent (maybe weeks)		NO	Follow up needed on excess motion seen.	Arnaud Pele	31-Jul-14		
14	LHO - 3rd IFO	BS	L1 BS	E1300699	yes	yes	yes	1			NO				YES	
15	LLO-L1	BS	3rd IFO BS	E1400157	yes	yes	yes	1	1) Transfer function data noisy. This is due to result performed on free standing stand. Accepted but noted. No Action.		NO				YES	
16	LHO-H1	HLTS	H1 PR3	E1300844	yes	yes	yes	1	1) SUS TO UPDATE OPTIC ASSEMBLY DWG. 2) RACK DWG (See below) 3) M3 to M3 transfer function. 4. Check and add excel spreadsheet to ICS entry. Note added 16th April 2014 (NAR) - item 2) has now been addressed, rack drawings are updated.	1) Optics assembly drawing has been updated as per DCN E1300890. 2) has now been addressed as noted in previous column. 3 - this has been passed to install acceptance since it is in chamber measurement. 4) has been done - Excel spreadsheet attached to ICS record.	NO	3) will be added to chamber acceptance, otherwise closed.			YES	
17	LHO-H1	HLTS	H1 SR3	E1400161	yes	yes	yes	1	No Punch-list items. Note Phase 2b testing only. Beyond phase 2b refer to chamber acceptance.		NO	Item will be added to chamber acceptance			YES	
18	LHO - 3rd IFO	HLTS	3rd IFO PR3	E1400159	yes	yes	yes	1	1) Note transfer function taken on non-ideal table. So are noisy. Noted only. No action. 2) Y YAW has cross coupling from long into yaw. It goes away under damping. Noted. No Action.		NO				YES	
19	LHO - 3rd IFO	HLTS	3rd IFO SR3	E1400160	yes	yes	yes	1			NO				YES	
20	LLO-L1	HLTS	L1 PR3	E1300836	yes	yes	yes	1	1) SUS TO UPDATE PR3 OPTIC ASSEMBLY DWG. 2) SUS to add mass information to ICS i.e. EXCEL spreadsheet with build numbers .	1) Optics assembly drawing has been updated as per DCN E1300890, 2) Mass information extracted from alog entry has been added as an attachment to ICS entry	NO	2) Add excel sheet to ICS	1) Janeen Romie (Matt Heintze)	31-Jul-14		
21	LLO-L1	HLTS	L1 SR3	E1400115	yes	yes	yes	1	1) Need excel spreadsheet with input data from build. 2) Refer Bug 733 for cross coupling issue highlighted below. No fix. 3) Magnet missing from SR3. Refer to bug 175. No fix planned for now.	1) Info on total mass added to ICS.	NO	1) Add excel sheet to ICS. 2) and 3) will be tracked through bug list, otherwise closed.	1) Janeen Romie (Matt Heintze)	31-Jul-14		733: L1 SR3 (HLTS) pitch to vertical cross coupling, 175: LHAMS - SR3 magnet came off optic lower left position 831: L1 SR3 (HLTS) M2 UL channel high frequency turn-up
22	LHO-H1	HSTS	H1 MC1	E1400118	yes	yes	yes	1			NO				YES	
23	LHO-H1	HSTS	H1 MC2	E1400119	yes	yes	yes	1	1) Pitch / roll mode coupled to vertical. Recommend add to bug-list and track. Refer to alog 6552.	Added to bug list	NO	1) will be tracked through bug list.			YES	847: Excess cross-coupling in MC2 suspension under vacuum
24	LHO-H1	HSTS	H1 MC3	E1400120	yes	yes	yes	1			NO				YES	
25	LHO-H1	HSTS	H1 PRM	E1400121	yes	yes	yes	1	1) Refer to alog entry 11121 and note 60Hz peak is dominant for top stage osems of PRM. Recommend check for grounding at next opportunity. Please add to bug list.	Added to bug list	NO	1) will be tracked through bug list.			YES	843: 60Hz spikes in OSEM spectra for H1 PRM suspension
26	LHO-H1	HSTS	H1 PR2	E1400122	yes	yes	yes	1	1) Refer to alog entry 7568 and observe Vertical to pitch cross coupling @ 2.8Hz. No action required.		NO				YES	
27	LHO-H1	HSTS	H1 SRM	E1400123	yes	yes	yes	1	No punch list items. Note that data to phase 2b only. Final review of data post 2b in chamber acceptance review.		NO	Item will be added to chamber acceptance			YES	
28	LHO-H1	HSTS	H1 SR2	E1400124	yes	yes	yes	1	No punch list. Completed to 2b. Phase 3a and 3b review will be in chamber acceptance review.		NO	Item will be added to chamber acceptance			YES	
29	LHO - 3rd IFO	HSTS	3rd IFO MC1	E1300514	yes	yes	yes	1	1) Minor cross coupling from vertical to roll Alog entry 5684. Minor. Suppressed with damping. SUS note this was the last built and these had least matched blades. Noted. No Action.		NO				YES	
30	LHO - 3rd IFO	HSTS	3rd IFO MC2	E1400125	yes	yes	yes	1			NO				YES	
31	LHO - 3rd IFO	HSTS	3rd IFO MC3	E1400126	yes	yes	yes	1			NO				YES	
32		HSTS	3rd IFO PRM	E1300497	yes	yes	yes	1	1) Cross coupling observed of vertical into roll / pitch. Suppressed when damping on. Noted. Accepted. No Action.		NO				YES	
33	LHO - 3rd IFO	HSTS	3rd IFO PR2	E1400127	yes	yes	yes	1			NO				YES	
34	LHO - 3rd IFO	HSTS	3rd IFO SRM	E1400128	yes	yes	yes	1			NO				YES	
35	LHO - 3rd IFO	HSTS	3rd IFO SR2	E1400129	yes	yes	yes	1			NO				YES	
36	LLO-L1	HSTS	L1 MC1	E1400109	yes	yes	yes	1	Punch list item - need excel spreadsheet with input data from build.	Info on total mass added to ICS	NO	Add excel sheet to ICS	Janeen Romie (Matt Heintze)	31-Jul-14		
37	LLO-L1	HSTS	L1 MC2	E1201042	yes	yes	yes	1	Punch list item - need excel spreadsheet with input data from build. (Not noted on filecard)	Info on total mass added to ICS	NO	Add excel sheet to ICS	Janeen Romie (Matt Heintze)	31-Jul-14		
38	LLO-L1	HSTS	L1 MC3	E1400113	yes	yes	yes	1	Punch list item - need excel spreadsheet with input data from build.	Info on total mass added to ICS	NO	Add excel sheet to ICS	Janeen Romie (Matt Heintze)	31-Jul-14		
39	LLO-L1	HSTS	L1 PRM	E1400114	yes	yes	yes	1	Punch list item - need excel spreadsheet with input data from build.	Info on total mass added to ICS	NO	Add excel sheet to ICS	Janeen Romie (Matt Heintze)	31-Jul-14		
40	LLO-L1	HSTS	L1 PR2	E1300513	yes	yes	yes	1	1) Need excel spreadsheet with input data from build (not noted on filecard). 2) All three stages of transfer functions show a change of slope in magnitude, a "turn up," at the highest frequencies shown, typically above 10 [Hz] - to be investigated	1) Info on total mass added to ICS	NO	1) Add excel sheet to ICS 2) will be tracked through bug list.	1) Janeen Romie (Matt Heintze)	31-Jul-14		327: Odd High-frequency behavior from all SUS Top2Top Transfer Functions (note this applies to other suspensions too)
41	LLO-L1	HSTS	L1 SRM	E1400116	yes	yes	yes	1	1) need excel spreadsheet with input data from build, 2) A cross-coupling of the 2nd roll mode at "2.1 Hz into the transverse DOF is present, see https://services.ligo-wa.caltech.edu/integrationissues/show_bug.cgi?id=90 - this does not warrant a rebuild, thus we should proceed with install, 3) Verifying that the sensor read-back issue is only at the M2 stage and that M2-M3 actuation is OK. See below. This needs a bug. 4) M2 to M3 and M3 to M3 yaw shows some cross coupling. See links below. Included for completeness. No action recommended or required.	1) Info on total mass added to ICS.	NO	1) Add excel sheet to ICS. 2) and 3) will be tracked through bug list.	1) Janeen Romie (Matt Heintze)	31-Jul-14		90: Excess cross-coupling in SRM at LLO 830: L1 SRM (HSTS) M2 stage sensor read-back issue
42	LLO-L1	HSTS	L1 SR2	E1400117	yes	yes	yes	1	Punch list item - need excel spreadsheet with input data from build.	1) Info on total mass added to ICS.	NO	1) Add excel sheet to ICS	1) Janeen Romie (Matt Heintze)	31-Jul-14		
43	LHO-H1	OMCS	H1 OMCS	E1400055	yes	yes	yes	1	1. SYS - Item #II below Top level assembly. Action on Systems (Eddie Sanchez). 2. SUS - Item #II below ICS. Action on Suspensions to find out why cables, bosems not present. (Janeen Romie).3. SUS - Item #II below ICS. Need to check that spreadsheet with as built masses, lengths etc has been attached to ICS. (Janeen Romie)	1) This was revision of D1300240 . This has been done (confirmed by NAR with E Sanchez). 3) EXCEL spreadsheet is attached to the ICS.	NO	2) to be completed/checked: check that info on BOSEMs and cables are in ICS	2) Janeen Romie	31-Jul-14		
44	LHO - 3rd IFO	OMCS	3rd IFO OMCS	E1400158	yes	yes	yes	1	1) It is noted that it is not always obviously clear (in test results) if X1 result is LHO or 3rd IFO. It is clear in text. No action.		NO				YES	
45	LLO-L1	OMCS	L1 OMCS	E1400034	yes	yes	yes	1	1. SYS - Item #II below Top level assembly. Action on Systems (Eddie Sanchez). 2. SUS - Item #II below ICS. Action on Suspensions to find out why cables, bosems not present. (Janeen Romie).3. SUS - Item #II below ICS. Need to check that spreadsheet with as built masses, lengths etc has been attached to ICS. (Janeen Romie)	1) This refers to revision of D1300077. This has been done (confirmed by NAR with E Sanchez). 2) BOSEMs are present in ICS. 3) EXCEL spreadsheet is attached to ICS	NO	2) to be checked that cables are in ICS	2) Janeen Romie	31-Jul-14		

total prepared   40   total approved   39

* In general punchlist items brought up in individual acceptance reviews but which are common to all of a certain type of suspension, or to all suspensions, are listed on next page.

** For 3rd IFO suspensions, the ICS assembly link on the filecards is to the generic assembly number for that type of suspension (HSTS etc) with uniquely identifying serial number, since a chamber assembly number does not exist. See E1400187 for list of the ICS identifier numbers.

colour scheme	
red	open punchlist item(s)
green	punchlist closed (or no punchlist)
yellow	punchlist closed, with item or items being tracked elsewhere

Status of General Acceptance Documentation

Item number (continued from previous page)	Suspension Type	DCC #	Filecard prepared	Review Started	Approved	Punchlist Items common*	Punchlist Items specific	Update on Punchlist Status	Items to Complete before Acceptance?	Assignment of punchlist to aLIGO Project or Ops and status	Assignee	Due Dates	Punchlist Closed
46	QUAD	E1201038	yes	yes	yes	1) Ops Manual (Ops instuctions), 2) Spares storage organisation, 3) Shipping/transportation Plans, 4) AOSEM FDD document T0900286 update, 5) LHO electronics doc tree	6) Finish/Check Quad top level drawings including optics assemblies ALL updates will be covered via DCN E1300970 and signed off by SUS and SYS.	1) extensive work has been done on Ops manual - currently being reviewed. Now reviewed (4 June 2014) by Rich A. He is happy with it, Calum agrees action closed. 4) AOSEM doc T0900286 has now been updated to v3 (6th June 2014).	NO	1) and 4) closed. 2) and 3) are under Operations. 5) and 6) are Project and to be done/finished	2) - Detector group (Janeen Romie, Vern Sandberg). 3) - To be assigned. 5) - Rich Abbott. 6) - Janeen Romie (Eddie Sanchez).	2) End August 2014. 3) Open. 5) end August 2014. 6) end July 2014.	(red)
47	BSFM	E1201039	yes	yes	yes	ditto	1) Finish/Check BSFM top level drawings		NO	1) underway	1) Janeen Romie (Eddie Sanchez)	end July 2014	(red)
48	HLTS	E1201041	yes	yes	yes	ditto	1) Finish/Check HLTS top level drawings. 2) Install doc E1000045 update as needed	1) Eddie Sanchez reports optics assemblies done. See DCN E1300890	NO	1) closed. 2) underway	2) - Janeen Romie	end July 2014	(red)
49	HSTS	E1201040	yes	yes	yes	ditto	1) Finish/Check HSTS top level drawings. 2) Install doc E0900334 update as needed	1) Eddie Sanchez reports optics assemblies done. See DCN E1300890 2) updated on	NO	1) and 2) closed			YES
50	OMCS	E1201043	yes	yes	yes	ditto	1) Finish/Check OMCS top level drawings. 2) Control range doc and noise model doc to be done (Jeff K). 3) assembly doc - pictures to be added (Jeff B)	3) OMCS Assembly doc is now updated including figures and posted to DCC.	NO	1) underway, 2) to be done, 3) closed	1) Janeen Romie (Eddie Sanchez), 2) Jeff Kissel.	1) End July 2014, 2) end July 2014	(red)

* where an item has come up in one review but affects most or all types of suspensions, it is included under "common".