

# SOUL Acceptance Review Lien List: Update for the Handover Review

07-mar-2023

# Report Distributed

- A report summarizing the status of the SOUL Acceptance Review Liens was distributed on March 5th, 2024.

## SOUL Acceptance Review Lien List: Update for the Handover Review March 5, 2024

1. Introduction	1
2. Status	1
3. Liens that require further action	2
4. Resulting actions on LBT	3
A. Notes from checking documentation liens	3
B. Notes from checking troubleshooting liens	5
C. Notes from checking software liens	6
D. Notes from checking calibration liens	6
E. Notes from checking other liens	7
F. Short description for each ID	7
G. Minor improvements	8

### 1. Introduction

In September, 2023, the open RIX from the four SOUL acceptance reviews were compiled into a single list of 45 items. Of these 45 items, 25 pertain to documentation, 9 to troubleshooting, 5 to software, 3 to calibration, and 3 to other<sup>1</sup>. Between September 2023 and early March 2024, LBT worked with the SOUL team to resolve and close as many liens as possible. Of the 45 liens, 36 are closed, 4 need clarification, 3 are outside the scope, and 3 are open. The spreadsheet that was used to track progress can be found [here](#).

### 2. Status

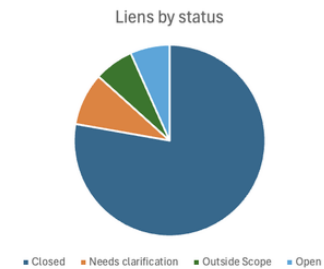


Figure 1. Status of the 45 liens.

<sup>1</sup> Other = one investigation, one training, and one improvement

# Consolidated List

- In September, 2023, the open RIX from the four SOUL acceptance reviews were compiled into a single list
  - 45 total.
    - 25 documentation
    - 9 troubleshooting
    - 5 software
    - 3 calibration
    - 3 other

# Spreadsheet for Tracking

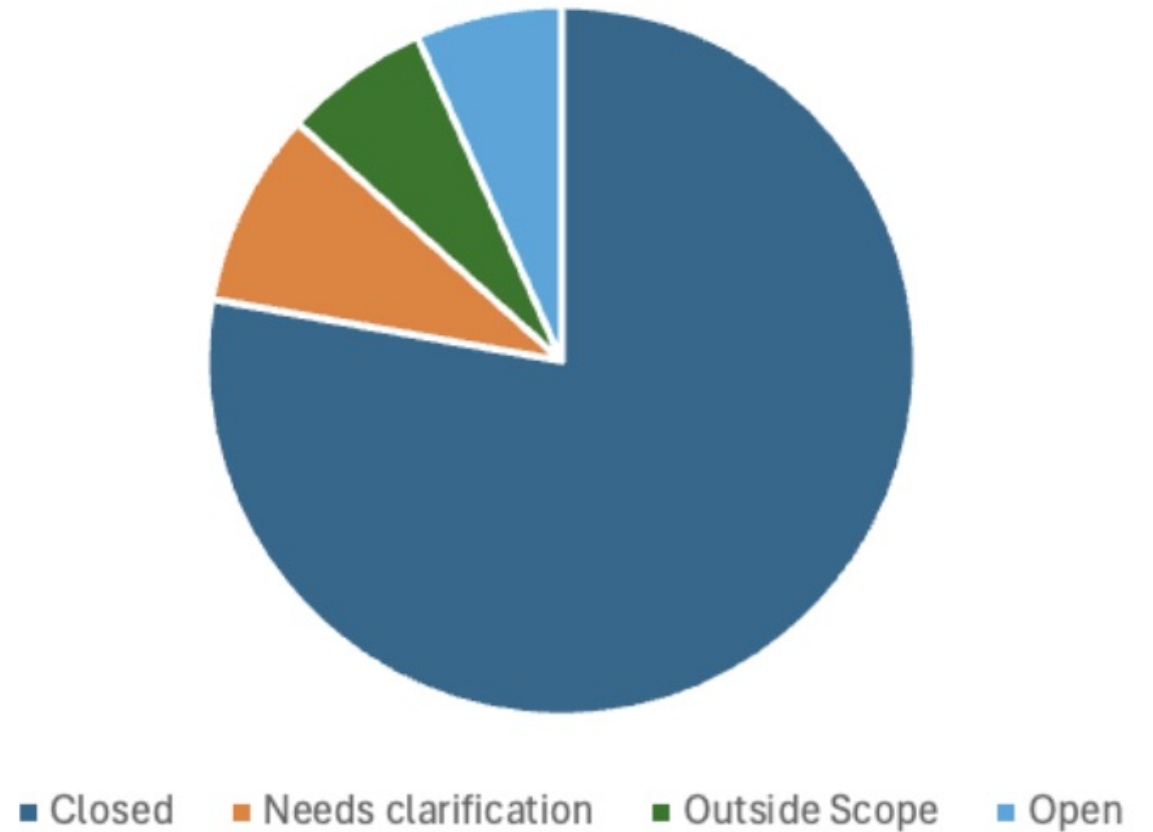
- Between September 2023 and early March 2024, LBT worked with the SOUL team to resolve and close as many liens as possible.
- A spreadsheet was used to track progress.

Ref ID (see note #1)	Category	Submitted By	Description	SOUL scope?	Comments	Status	Est. Compl. Date	Notes by SOUL team
L_01A	Troubleshoot	Review Panel	Ocam issue #1 = Zero Slopes firmware fix	Y	See <a href="#">13oct2023 status note</a>	Open	Mar-15-2024	New FW positively tested - closed?
L_01C	Troubleshoot	Review Panel	Ocam issue #3 = Negative Intensity	Y		Open	NA?	New workaround identified, to be tested on systems in parallel with lab tests
L_01D	Troubleshoot	Review Panel	Ocam issue #4 = Other items in JP "zoology" list	Y	JP <a href="#">Zoology</a>	Open	NA?	Waiting for inputs from LBTO
L_02	Calibration	Review Panel	Measure the Strehl ratio at H-band on LMIRCam	Y		Open	Feb-15-2024	In progress
CR_DX_LBTL_083	Software	DLM	Change the log file location (needs a change to the audloop code)	Y		Open	Feb-1-2024	Delivered in pull request: <a href="https://github.com/LBTO/ao-supervisor/pull/206">https://github.com/LBTO/ao-supervisor/pull/206</a> - Closed?
CR_DX_LBTL_098	Troubleshoot	JP	Bin4 delay	Y		Open	NA?	Instructions for the test provided to LBTO AO team (EPI email 10/01/2024 to ALC, DMI etc) - Closed?
CR_DX_LUCI_115	Improvement	DT	Make improvements needed for LUCI spectroscopy	N		Open	NA?	Out of handover
CR_DX_LUCI_119	Software?	DT	Improve the repeatability of stage positioning on dithering	N		Open	NA?	Out of handover
VM_DX_LUCI_047	Investigation	DT	Quantify consequences of resolved source as AO reference	N		Open	NA?	Out of handover
L_04	Documentation	Review Panel	Review operational constraints	Y		Open	Feb-15-2024	Waiting for iteration/meeting with LBTO
N_01	Documentation	JP	Produce an updated user manual	Y	See <a href="#">SX LBTL Organization Note</a>	Open	Feb-15-2024	SOUL team released D10 issues 1.5 and 1.6
N_02	Documentation	JP	Production of an updated user procedure	Y	See <a href="#">SX LBTL Organization Note</a>	Open	Feb-15-2024	SOUL team released D11 issue 1.4
CR_DX_LUCI_105	Documentation	JP	Re subaperture threshold: Clarify the text in CR 7.1.4	Y		Open	Feb-15-2024	Text added in D04 issue 4.1 sect. 7.1.4
CR_DX_LUCI_113	Documentation	JP	Fix reference in D04	Y		Open	Feb-15-2024	D04 issue 4.1 sec. 2 updated reporting issue 7 of D01 and checking all the other versions
CR_DX_LUCI_121	Documentation	SR	Provide the units for camera lens control in Figure 3	Y		Open	Feb-15-2024	Caption of fig.3 of D04 updated in issue 4.1
CR_DX_LUCI_126	Documentation	SR	Provide the list of the variables for new telemetry channels	Y		Open	Feb-15-2024	List added to D10 issue 1.6 Appendix C
CR_DX_LUCI_127	Documentation	SR	Document the list of recommended minor upgrades	N		Open	Feb-15-2024	List provided and discussed at the S-LUCI2 review meeting
CR_DX_LBTL_054	Documentation	JP	Update modification record to reflect changes made for DX review	Y		Open	Feb-15-2024	D04 issue 4.1 Added the line for missing release in the modification record
CR_DX_LBTL_057	Documentation	JC	Update fig. 32 of D04 with same axis range of S-LBTL-SX one.	Y		Open	Feb-15-2024	D04 issue 4.1, updated plot SR Daytime S-LBTL-DX
CR_DX_LBTL_058	Documentation	JC	Update fig. 32 with new SR from slopes in D04	Y		Open	Feb-15-2024	D04 issue 4.1, updated Plot SR Daytime S-LBTL-SX and S-LBTL-DX
CR_DX_LBTL_062	Documentation	JC	Show plots of S-LBTL perf Vs seeing in Comm Report	Y		Open	Feb-15-2024	D04 issue 4.1, vPlot added as new figures in sect 13.2.2 and 13.2.3
CR_DX_LBTL_0NN	Documentation	DLM	13 minor document fixes: RIX 71-73, 76-82, 84-85, 87	Y		Open	Feb-15-2024	71; 73; 76; 77; 78; 79; 80; 81; 82; 84; 85; 87 fixed, 72 was delivered in <a href="https://github.com/LBTO/ao-supervisor/pull/208">https://github.com/LBTO/ao-supervisor/pull/208</a>
CR_DX_LBTL_087	Documentation	DLM	Fix numbering in the doc	Y		Open	Feb-15-2024	Fixed in T12 issue 1.2
CR_DX_LBTL_091	Documentation	JP	Add the shift pupil procedure to the User Procedures Manual	Y		Open	Feb-15-2024	Added in D11 issue 1.4
CR_DX_LBTL_093	Documentation	JP	Document results of binocular flux test	Y		Open	Feb-15-2024	Results added in D04 issue 4.1 sect 7.5.4
CR_DX_LBTL_096	Documentation	JP	Debug OCAM bad frame impact on center pupil procedure	Y		Open	Feb-15-2024	Next action on LBTO to verify and document the issue - closed?
VM_DX_LBTL_31	Documentation	JP	Fix page numbering in T10	Y		Open	Feb-15-2024	Done in T10 issue 1.2
VM_DX_LBTL_37	Documentation	JP	Fix spelling T11 sect 3 p3	Y		Open	Feb-15-2024	Done in T11 issue 1.1
VM_DX_LBTL_40	Documentation	JP	Replace absolute paths with environment variables in T12	Y		Open	Feb-15-2024	Done in T12 issue 1.2 (several sections)
VM_DX_LBTL_42	Documentation	JP	Clarify the matter in the paragraph text of T12 sec 2	Y		Open	Feb-15-2024	Done in T12 issue 1.2 sect. 2
DOC_SX_LUCI_001	Documentation	Several	Approx. 100 (!) open documentation RIX from SX LUCI review	Y		Open	Feb-15-2024	performed all those on SOUL team - see details in rxRegister for SOUL-LUCI1
CR_DX_LBTL_086	Software	DLM	Change all the absolute paths to paths using environment variable	Y	20dec2023: To be closed as per EP email	Open	Feb-15-2024	Performed
CR_DX_LUCI_108	Documentation	JP	Correct refMagFlux value.	Y	20dec2023: To be closed as per EP email	Open	Feb-15-2024	Corrected in D04 issue 4.1
CR_DX_LUCI_111	Documentation	JP	LUCI equivalent to LBTL blinded reconstructor question + doc fix	Y		Open	Feb-15-2024	D04 issue 4.1, REC 623 for S-LUCI2 removed from tab 11
CR_DX_LUCI_112	Documentation	JP	Document updated pupils following bin4 delay fix	Y	20dec2023: To be closed as per EP email	Open	Feb-15-2024	20dec2023: To be closed as per EP email
L_05	Calibration	Review Panel	Perform flux calibration on sky	Y	Includes fixing AOS table diff (see 11oct notes)	Closed	Feb-15-2024	D04 issue 4.1, sect. 15.4.1 includes pupil info.
L_01B	Troubleshoot	Review Panel	Ocam issue #2 = Zero Slopes work-around	Y		Closed		
VM_DX_LBTL_30	Software	BM	Create a Github PR for reset_gop! scripts	Y		Closed		
VM_DX_LBTL_39	Troubleshoot	JP	Implement and test permanent fix for the slopes 0 error	Y		Closed		
L_06	Calibration	Review Panel	Produce the reconstructor for handling blinded subapertures	Y		Closed		
L_08	Troubleshoot	Review Panel	Investigate noise in the pupil interdistance measurement	Y		Closed		
CR_DX_LUCI_117	Software	DT	Use actual values for LUCI dichroic band pass in computations	N		Closed		
CR_DX_LBTL_064	Troubleshoot	JC	Get a negative frames report from FLJ	Y		Closed		
CR_DX_LBTL_075	Troubleshoot	DLM	Provide update on O2k.01 Slope 0 issue	Y		Closed		
VM_DX_LUCI_053	Training	SR	Share the AO simulations tools	Y		Closed		

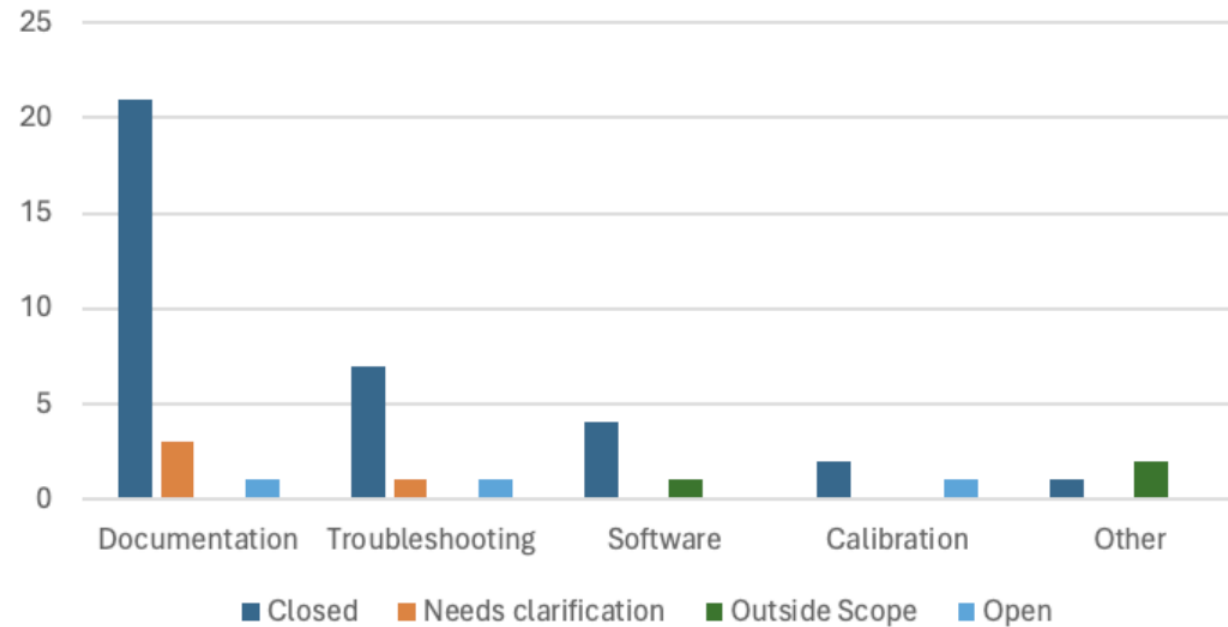
# Status

- 35 are closed
- 4 need clarification
- 3 are outside the scope
- 3 are open

Liens by status



# Status by category



	Documentation	Troubleshooting	Software	Calibration	Other
Closed	21	7	4	2	1
Needs clarification	3	1			
Outside Scope			1		2
Open	1	1		1	

# Actions on LBT

- Many of the liens include actions on LBT.
- For some, the LBT action is all that is left to do.
- Examples:
  - Include software change in a stable release and confirm log file locations change (see CR\_DX\_LBTI\_083)
  - Confirm instructions are adequate and post them on the AO web pages (see CR\_DX\_LBTI\_098)
  - 34 open actions assigned to LBTO on the “SOUL Manual” tab from LUCI SX.
- A complete and prioritized list of LBT actions will be compiled after the handover review
- That LBT action list is outside the scope of this report.

# Open Liens (1 of 2)

ID	Type	Desc	Est. TTC	Lead
L_01C	Troubleshoot	Negative Intensity	3 months	Fabrizio/JCG
L_02	Calibration	Strehl Calculation	1 month	Enrico
L_04	Documentation	Observational Constraints	2 months	AOS or AI (?)



# Open Liens (2 of 2)

- L\_01C - Negative Intensity
  - Now called Zero Pixel.
  - Work continues with the test set-up at the summit.
- L\_02 - Strehl Calculation
  - SOUL team acknowledges their need to produce software.
  - DX data still to be collected by LBT (after fixing problems).
- L\_04 - Observational Constraints
  - Review the operational constraints of running the AO system (seeing, wind, variability)
  - SOUL team says: Waiting for iteration/meeting with LBTO.

# Liens that need clarification (1 of 5)

ID	Type	Desc
CR_DX_LBTI_087	Documentation	Revise/remove "Old" sections
CR_DX_LBTI_096	Documentation	Bad frame impact on center pupil
DOC_SX_LUCI_001	Documentation	Documentation from LUCI SX
L_01D	Troubleshoot	Not Live

# Liens that need clarification (2 of 5)

- CR\_DX\_LBTI\_087 - Revise/remove "Old" sections
  - Full text of RIX is *"Can the important parts of Sections #7, 9, 10 (there is no section #8) be placed in the relevant sections above and Sections #7, 9, 10 [OLD Report] be removed?"*
  - The sections 7,8,9 are still labeled "[OLD Report]".

# Liens that need clarification (3 of 5)

- CR\_DX\_LBTI\_096 - Bad frame impact on center pupil
  - Full text of RIX is
    - *If there is an OCAM bad frames during the center pupils and the user needs to rebin, a new preset needs to be sent. The modulation override is not recognized after rebinning and an error will be received.*
    - *Either add a note here or in troubleshooting?*
    - *Or can something be added to the remaining through WFSArb to accommodate this case? The 623 4mode ACE table is typically only in place when operating in the blinding regime*
  - SOUL response:
    - *Next action on LBTO to verify and document the issue - closed?*
  - Can this be closed (as suggested by SOUL team)?
  - Can this be fixed via documentation as originally suggested by LBT?

# Liens that need clarification (4 of 5)

- DOC\_SX\_LUCI\_001 - Documentation from LUCI SX
  - Although SOUL team has marked all as closed, some are pending action from LBT.
  - Should we close this, since the SOUL team portion is complete?
  - Does LBT agree with indication of LBT next action on all of those items?
  - All 34 next actions to LBT are for D10 and D11 (User's Manual and User's Procedure).

# Liens that need clarification (5 of 5)

- L\_01D - Not Live
  - SOUL team says they are waiting for input from LBT.
  - This is now the same as "not live" (?)
  - Or do we include the others from the zoology:
    - Dark octant
    - 2 noisy external octants
    - OCAM flame

# Conclusions

- Of the 45 liens, 38 need no further action prior to handover (TBC).
- 7 need further action.
  - 3 are open and work continues.
  - 4 need clarification.
- List of LBT actions has not yet been compiled.