|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Traveler Title | LCLS-II-HE Cold FPC Inspection Traveler | | | |
| Traveler Abstract | Incoming inspection process for the cold part of L2HE FPCs (FPCCs) | | | |
| Traveler ID | L2HE-CLNRM-FPCC-INSP | | | |
| Traveler Revision | R5 | | | |
| Traveler Author | N. huque | | | |
| Traveler Date | 19-Apr-23 | | | |
| NCR Informative Emails | areilly | | | |
| NCR Dispositioners | Huque,adamg | | | |
| D3 Emails | Huque,adamg | | | |
| Approval Names | Naeem Huque | Danny Forehand | Kirk Davis | Adam Grabowski |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Work Center Lead | Reviewer | Project Manager |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| References | List and Hyperlink all documents related to this traveler. This includes, but is not limited to: safety (THAs, SOPs, etc), drawings, procedures, and facility related documents. | | | |
| [LCLSII-HE-1.2-ES-0059](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-242805/LCLSII-HE-1.2-ES-0059.pdf) | [CP-L2PRD-CLN-PUMP](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-243275/CP-L2PRD-CLN-PUMP.docx) | [CP-C100-CAV-LKTS](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-243276/CP-C100-CAV-LKTS.pdf) | [Solair 3100 Gen E Manual](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-242798/Solair%203100%20Gen%20E%20Manual.pdf) | [L2HE-PR-INSP-FPCC-R6](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-262719/L2HE-PR-INSP-FPCC-R6.pdf) |
| [CP-STP-CAV-CHEM-DEGR-R3](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-242804/CP-STP-CAV-CHEM-DEGR-R3.pdf) | [CP-L2PRD-CM-SLBUP-R2](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-242801/CP-L2PRD-CM-SLBUP-R2.pdf) | [CP-L2PRO-CST-CHEM-CLN-ION](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-243277/CP-L2PRO-CST-CHEM-CLN-ION-R1.pdf) | [Vacuum-005-2008](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-242799/Vacuum-005-2008%20Guidelines%20for%20UHV-Components%20at%20DESY.pdf) |  |

|  |  |
| --- | --- |
| Revision Note |  |
| R1 | Initial release of this Traveler. |
| R2 | Removed kit parts and RGA criteria |
| R3 | Added instructions to photograph parts (multiple steps) regardless of defects |
| R4 | Changed NCR dispositioner and D3 informative emails. Changed inspection procedure revision to R4 |
| R5 | Changed inspection procedure revision to R6, SR111, Naeem request. Updated Project Manager and NCR Informative Emails. |

|  |  |  |
| --- | --- | --- |
| Step No. | Instructions | Data Input |
| 1 | Inspection Start Date  Technician Name  Visually inspect the outer plastic bag. Comment on any damage. | [[StartDate]] <<TIMESTAMP>>  [[InspTech1\_SRFCVP]] <<SRFCVP>>  [[BagComm]] <<COMMENT>> |
| 2 | Enter the serial number of the FPC pair (label on outer bag, in the form PA#-XX)  Enter the serial numbers for the two FPCCs as per the image below (label on outer bag) CPI-FPCC-HE-XXX.  Add any relevant comments. | [[PAIRSN]] <<SN>>  [[Combine FPCC-1 and FPCC-2 into PAIRSN]] <<NOTE>>  [[FPCC1SN]] <<FPCCSN>>  [[FPCC2SN]] <<FPCCSN>>  [[SerialComm]] <<COMMENT>> |
| 3 | Cleanroom Test Date  Cleanroom Technician  Cleanroom Admission Comments | [[CRTest]] <<TIMESTAMP>>  [[CRTech\_SRFCVP]] <<SRFCVP>>  [[CRComm]] <<COMMENT>> |
| 4 | **RGA Scan and Leak Check**  RGA/Leak Test Date  Technician  Record Static Vacuum (in torr)  Perform bag Leak Check and upload data file. If leak rate is above 2.76x10-10 torr-l/sec He, generate an NCR.  Assembly passes Leak Check?  Collect RGA data and upload file. Do not generate an NCR | [[RGALeakDate]] <<TIMESTAMP>>  [[RGALeakTech\_SRFCVP]] <<SRFCVP>>  [[StatVac]] <<SCINOT>>  [[StatVacUpload]] <<FILEUPLOAD>>  [[StatVacComm]] <<COMMENT>>  [[LC1Rate]] <<SCINOT>>  [[LC1Upload]] <<FILEUPLOAD>>  [[LC1Comm]] <<COMMENT>>  [[LC1YesNo]] <<YESNO>>  [[RGAUpload]] <<FILEUPLOAD>>  [[RGAComm]] <<COMMENT>> |
| 5 | **Electrical Checks**  Check that the resistance of the electron probes read infinity with the multimeter. Generate an NCR for any probes that fail.  FPC-1 Probe Ok?  FPC-2 Probe Ok? | [[FPC1PRobe]] <<YESNO>>  [[FPC2PRobe]] <<YESNO>>  [[FPCProbeComm]] <<COMMENT>> |
| 6 | **External Particulate Count**  Record and upload (optional) particulate counts on the external volume of the assembly. If particulate count for 0.3μm particles size does not reach 1000 counts in about 15 minutes of nitrogen spraying, comment and generate an NCR and upload the final file. | [[ExtCountOk]] <<YESNO>>  [[ExtCountUpload]] <<FILEUPLOAD>>  [[ExtCountComm]] <<COMMENT>> |
| 7 | **Visual Inspection – After Removal of Protection Caps**  Visually inspect the cold ceramics. Upload photos of the cold ceramics. Generate an NCR for any scratches, chips, spots or stains.  Visually inspect the CF100 knife edges; upload photos. Generate an NCR if there are any defects or if there are any copper deposits on the knife edge.  Visually inspect the copper plating on the CF100 flanges and upload photos. The plating should be uniform, without pits, scratches, peeling off, blisters and should stop at ~3 mm from the knife edge. There should be no Viton residue on the copper. If any issues are found, document findings and generate NCR.  Visually inspect the RF contact surfaces above the ceramic; upload photos Generate an NCR if there are any scratches or other defects.  Remove the RF pin and check that the threads are intact and that there is no dirt or oil inside the tapped hole; upload photos. Generate an NCR if any issues are found. | [[FPC1CeramicOk]] <<YESNO>>  [[FPC2CeramicOk]] <<YESNO>>  [[CeramicComm]] <<COMMENT>>  [[CeramicPhoto]] <<FILEUPLOAD>>  [[FPC1CFKnifeOk]] <<YESNO>>  [[FPC2CFKnifeOk]] <<YESNO>>  [[CF100Comm]] <<COMMENT>>  [[CF100Photo]] <<FILEUPLOAD>>  [[FPC1FlangePltOk]] <<YESNO>>  [[FPC2FlangePltOk]] <<YESNO>>  [[FlgPltComm]] <<COMMENT>>  [[FlgPltPhoto]] <<FILEUPLOAD>>  [[FPC1RFConOk]] <<YESNO>>  [[FPC2RFConOk]] <<YESNO>>  [[RFConComm]] <<COMMENT>>  [[RFConPhoto]] <<FILEUPLOAD>>  [[FPC1RFHoleOk]] <<YESNO>>  [[FPC2RFHoleOk]] <<YESNO>>  [[RFHoleComm]] <<COMMENT>>  [[RFHolePhoto]] <<FILEUPLOAD>> |
| 8 | **Visual Inspections after Removing FPCC-1 from Shipping Stand**  Inspect the FPCC-1 bellows for any dents or scratches. Upload photos of the bellows; at least 4 images with 90 degrees of rotation between them. Generate an NCR if any defects are found.  Visually inspect the sealing surface of the FPCC-1 Cavity Flange sealing surface; upload photos. It should be free of AlMg traces, scratches, and chemical residue. Generate an NCR if any issues are found.  Inspect the visible regions of copper plating on the inner surface of FPCC-1; upload photos. Generate an NCR if there are any blisters, pits, scratches, stains, or flaking copper.  Visually inspect the FPCC-1 copper antenna and upload photos. It should be free of scratches, chemical residue, erosion spots or mechanical cleaning marks. If any issues are identified, document and generate NCR. | [[FPC1BellowsOk]] <<YESNO>>  [[FPC1BellowsComm]] <<COMMENT>>  [[FPC1BellowsPhoto]] <<FILEUPLOAD>>  [[FPC1CavSealOk]] <<YESNO>>  [[FPC1CavSealComm]] <<COMMENT>>  [[FPC1CavSealPhoto]] <<FILEUPLOAD>>  [[FPC1CopperOk]] <<YESNO>>  [[FPC1CopperComm]] <<COMMENT>>  [[FPC1CopperPhoto]] <<FILEUPLOAD>>  [[FPC1AntennaOk]] <<YESNO>>  [[FPC1AntennaComm]] <<COMMENT>>  [[FPC1AntennaPhoto]] <<FILEUPLOAD>> |
| 9 | **FPCC-1 Internal Particulate Count**  Record and upload (optional) particulate counts on the internal volume of FPCC-1. If particulate count for 0.3μm particles size does not reach 10 counts in about 15 minutes of nitrogen spraying, comment and generate an NCR and upload the final file. | [[FPC1IntCountOk]] <<YESNO>>  [[FPC1IntCountUpload]] <<FILEUPLOAD>>  [[FPC1IntCountComm]] <<COMMENT>> |
| 10 | **Visual Inspections after Removing FPCC-2 from Shipping Stand**  Inspect the FPCC-2 bellows for any dents or scratches. Upload photos of the bellows; at least 4 images with 90 degrees of rotation between them. Generate an NCR if any defects are found.  Visually inspect the sealing surface of the FPCC-2 Cavity Flange sealing surface; upload photos. It should be free of AlMg traces, scratches, and chemical residue. Generate an NCR if any issues are found.  Inspect the visible regions of copper plating on the inner surface of FPCC-2; upload photos. Generate an NCR if there are any blisters, pits, scratches, stains, or flaking copper.  Visually inspect the FPCC-2 copper antenna and upload photos. It should be free of scratches, chemical residue, erosion spots or mechanical cleaning marks. If any issues are identified, document and generate NCR | [[FPC2BellowsOk]] <<YESNO>>  [[FPC2BellowsComm]] <<COMMENT>>  [[FPC2BellowsPhoto]] <<FILEUPLOAD>>  [[FPC2CavSealOk]] <<YESNO>>  [[FPC2CavSealComm]] <<COMMENT>>  [[FPC2CavSealPhoto]] <<FILEUPLOAD>>  [[FPC2CopperOk]] <<YESNO>>  [[FPC2CopperComm]] <<COMMENT>>  [[FPC2CopperPhoto]] <<FILEUPLOAD>>  [[FPC2AntennaOk]] <<YESNO>>  [[FPC2AntennaComm]] <<COMMENT>>  [[FPC2AntennaPhoto]] <<FILEUPLOAD>> |
| 11 | **FPCC-2 Internal Particulate Count**  Record and upload (optional) particulate counts on the internal volume of FPCC-2. If particulate count for 0.3μm particles size does not reach 10 counts in about 15 minutes of nitrogen spraying, comment and generate an NCR and upload the final file. | [[FPC2IntCountOk]] <<YESNO>>  [[FPC2IntCountUpload]] <<FILEUPLOAD>>  [[FPC2IntCountComm]] <<COMMENT>> |
| 12 | **Storage**  Move the test frame with the two FPCCs in the Clean room class 10 dedicated storage areas. Record the date when the test stand was moved into the storage area or into the N2 cabinet. | [[FPCStoreDate]] <<TIMESTAMP>> |