

RAT in Point 8 Réunion Avancement Travaux

HARDWARE COMMISSIONING COORDINATION - WEEK 6

5th February 08:30 2889-R-009

Present: AB/BT: J.Uythoven
AB/CO: R.Lauckner, R.Schmidt
AB/OP: J.Ridewood
AB/PO: H.Thiesen
AT/ACR: F.Millet, R.Rabehl, A.Suraci
AT/MCS: M.Modena
AT/MEL: V.Chareyre, M.Karppinen, S.Russenschuck
AT/MTM: A.Siemko
TS/EL: S.Brown
TS/HDO: M.Coccoli, J.Etheridge, B.Perea, R.Saban, M.Solfaroli,
A.Vergara
TS/IC: E.Barbero, A.Coin

Sector 78 (M.Coccoli, A.Vergara)

Cool-Down (F.Millet)

- Over the weekend there were cooling problems in sector 78 with the following implications:
 - ✓ About one quarter of the arc 78 (7R side) was kept at temperatures up to 98K, while the other magnets were between 82K and 84K.
 - ✓ The cooling conditions are restored this morning and the temperature is decreasing to have a uniform 80K profile over the whole arc 78.
 - ✓ There is a reserve of 2 trucks of nitrogen that will be used today and then the temperature will be kept constant by means of the "turbines".
 - ✓ In case the temperature of a sensor will go above 100K, F.Millet will give a warning to the Hardware Commissioning team of point 8 (M.Coccoli and A.Vergara) and to the Hardware Commissioning responsables (R.Saban and R.Schmidt).

EIQA

- The EIQA activity planned for today and tomorrow could experience up to half a day of delay due to the unexpected lack of manpower (2 AT/MEL team member are ill).
- The Cooldown will be in static conditions (according to the safety rules) during the EIQA-TP4C.

- The work in LSS7R will begin at 11am today by V.Chareyre with the green light of F.Millet.

Sector 81 (M.Coccoli, A.Vergara)

Warm Magnets (M.Coccoli)

- The safety conditions during commissioning should follow the procedures in a closer way. J.Uythoven pointed out that the safety of the warm magnets test should be under the responsibility of the equipment owners, i.e. M.Karppinen and D.Smekens. This afternoon a visual inspection will be performed by M.Coccoli, J.Etheridge, M.Karppinen, J.Uythoven (D.Smekens will be invited to be present as well).
- The communication tests advanced noticeably last Friday. J.Uythoven asked to have a slot Tuesday 6th or Wednesday 7th and E.Barbero will try to arrange for it.
- Up to date, the tests advanced according to the planning.

Open Issues

AC non-conformity

- 29.01.07 Installation of UPS PIC boxes (E.Barbero)
- 13.11.06 Non-conformity of the crates of cryo instrumentation (inrush current) (A.Suraci: ready next year)
- 13.11.06 Non-conformity of the AC cabling of the crates under the magnets. This concerns ACR, MEL & VAC.

DC cabling

- 19.01.07 Warm Magnet cable positioning to be changed to avoid "antenna" effects (M.Condemine, J.C.Guillaume)
- 22.11.06 Pre-connection of 120A cables in LSS7 (TS/EL) - PC Non conformities (H.Thiesen)

Instrumentation Cabling

- 12.01.07 Cryo-instrumentation cables: 2 LSS8L connectors (A.Suraci-J-C.Guillaume)
- 10.01.07 Continuity error with cable 1813004A and a wrong housing of 1702440 which should be replaced (D.Bozzini)

Cryogenics

- 16.01.07 Vac-Cryo Interlock tests - window of 1 day needed (P.Cruikshank-F.Millet)
- 22.11.06 Instrumentation and remote control not fully stable (P.Gayet - F.Millet)

Safety

General remark: written communication in advance to announce operations!!!

23.11.06 Water leak on the tunnel concrete wall to be fixed (C33L8).

Preparation of powering test

30.11.06 EI_QA performed on C16L8. ICC test showed reversed sequence of V-taps on circuit RCBV16.L8B1 (D.Bozzini)

AOB

08.01.07 Re-installation of 3 BLMs interfering with pumping groups (B.Dehning)

13.11.06 BPM connection in Q2 (R.Jones) - waiting for Inner Triplet to be repaired

Closed Issues

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| Mobile camera installed, tested, fully operational (K.Kershaw) | 16.01.07 |
| DFBXG Temperature sensors repaired (R.Rabehl) | 16.01.07 |
| Warm magnet transport stuck in the arc 78. | 15.01.07 |
| Connection of the NC Magnets in LSS8R (J-C.Guillaume) | 15.01.07 |
| DFBX Pumping of Current Leads insulation vacuum (S.Feher, P.Chambouvet) | 15.01.07 |
| QPS - 2 cables need repair (R.Denz-D.Tommasini) | 12.01.07 |
| DFBXG non-conformity on the current lead heater cables 1821322 and 1821323 (P.Chambouvet-J-C.Guillaume) | 12.01.07 |
| Cryo-instrumentation cables: 2 LSS8L + 1 LSS7R to be pulled (A.Suraci-J-C.Guillaume) | 15.01.07 |
| Bad positioning of the 13 kA power cable <i>cosses</i> corrected (J-C.Guillaume-P.Denis) | 11.01.07 |
| Cryo-instrumentation cables at DFBX inversion sorted out (A.Suraci) | 10.01.07 |
| Calibration of the Arc Detectors on the 13 kA EE System (K.Dahlerup-Petersen) | 19.12.06 |
| Short-to-ground in QBBI.A21R7 (Lyra side) (D.Bozzini, F.Seyvet) | 19.12.06 |
| BPM connection in Q3, Q4, Q5, Q6, Q7 (R.Jones) | 15.12.06 |
| DFBAO Functional test on the leads heaters | 15.12.06 |
| DFBXG 100V test on current leads (S.Feher) | 15.12.06 |
| Repositioning of 1 DC cable on DFBAO and of 2 DV cables on DFBAN (all 13kA) (J.C.Guillaume) | 14.12.06 |
| Wooden structure for UA access restriction (that will allow transport) | 12.12.06 |
| Non conformity in DFBMH, DFBAN and DFBXG current lead heaters (P.Chambouvet-J-C.Guillaume) | 12.12.06 |
| Galvanic insulation installation on all DFBs (AT/MEL) | 08.12.06 |

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| Re-positioning collars used to fix the WRL to the CLs (all DFBs) (A.Perin-D.Bozzini-F.Millet) | 08.12.06 |
| 6 kA and 13 kA cables positioning at DFBAO, DFBMA, DFBMC (Flohe) | 08.12.06 |
| Functional test on the leads heaters: DFBMA, DFBMC | 08.12.06 |
| EIQA-TP4B safety procedure (1900 volts tests!). | 07.12.06 |
| Cool down safety procedure & access conditions | 07.12.06 |
| Instrumentation cable HV tests in LSS8L (A.Suraci: 4 cables to be tested) | 06.12.06 |
| Non-conformity on instrumentation cables (temperature sensors on current leads) (A.Suraci: 3 cables are in repair-Wed.29th) | 06.12.06 |
| Quench protection continuity tests and cables assignment LLS7R (DFBMH, DFBAN) and LSS8L (DFBMC, DFBMA and DFBX) | 06.12.06 |
| DFBAN cable positioning (J.C.Guillaume) | 06.12.06 |
| Access & Safety Cable Installation (full sector) (J.C.Guillaume) | 06.12.06 |
| EIQA-TP4-A for all DFBs sector78 | 04.12.06 |
| Water circulating in UA83 for the Powering Procedure Test: filters checked, installation of flexible cables by CV. | 04.12.06 |
| LHCb ODH System ready | 04.12.06 |
| Definition of owner of activity and pumping needs for current leads insulation vacuum (DFBX) (S.Feher, R.J.Rabehl) | 04.12.06 |
| DFB instrumentation cables to be connected (A.Suraci) | 04.12.06 |
| Functional test on the leads heaters DFBMA | 04.12.06 |
| Functional test on the leads heaters DFBMC | 04.12.06 |
| Non-conformity of the DC cabling of the orbit corrector power converters | 04.12.06 |
| Pretest of 60A converters in sector 78, location C16L8. | 30.11.06 |
| EIQA-TP4-A on DFBAN, DFBMH, DFBAO LC module | 29.11.06 |
| Pumping of insulation vacuum for all DFBs between 7 and 8 (except DFBX) | 29.11.06 |
| Functional test on the leads heaters DFBMH | 29.11.06 |
| Functional test on the leads heaters DFBAN | 28.11.06 |
| Pumping of current lead insulation vacuum DFBAN | 25.11.06 |
| 120A and 600A positioning on DFBAN and DFBMH (INEO) | 25.11.06 |
| Missing labels on DFBAO instrumentation cables | 24.11.06 |
| Adjustment of cable length on DFBAO | 24.11.06 |
| Prototype of galvanic insulation to be tested at Point 6 | 23.11.06 |
| Definition of Safety procedure for Powering Procedure Test (aka Dry | 23.11.06 |

Runs)

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| Leaks on DFBAO gas recovery line in repair/installation of helicoflex | 22.11.06 |
| 21 leak detectors to be placed all along the arc 78 | 22.11.06 |
| Connections (made by TS/MME) of 120 A cables to be verified (TS/EL) | 22.11.06 |
| 600 A cable positioning on DFBAO | 22.11.06 |
| Pumping of current lead insulation vacuum DFBMH | 21.11.06 |
| Pressurized air supply to valve on WRL | 21.11.06 |
| Support on DFBAO WRL | 21.11.06 |
| Bellows in Q6-Q7 LSS8L which had been damaged, is now repaired | 20.11.06 |
| Valve on the WRL is operational | 20.11.06 |
| Leak in arc Q11-8L | 20.11.06 |
| Cryogenic valve manipulation on DFBX | 20.11.06 |
| Removal of some BLMs in conflict with the pumping groups | 17.11.06 |
| 120 A Cables connection in DFBAO, DFBMC, DFBMA and DFBX LSS8L | 17.11.06 |
| DS7R and DS8L leak test finished | 17.11.06 |
| Leak in R7 repaired | 17.11.06 |
| Q6-Q7 bake-out completed | 17.11.06 |
| Current lead vacuum: man power and pumping groups availability | 15.11.06 |
| Hydraulic connection of the current leads | 15.11.06 |
| DFBX AT/MEL Transformers installation | 14.11.06 |
| WRL connection DFBMH LSS7R | 14.11.06 |
| ELQA-TP3 test of the sector 78 | 14.11.06 |
| Polarity tests of the 600A and 120A cables for DFBAN and DFBMH (LSS7R) | 14.11.06 |
| QUI available | 10.11.06 |
| Pressure tests of QUI and DFBs safety valves finished | 10.11.06 |
| QRL valves available for all sector | 09.11.06 |
| QRL valve opening/cabling verification | 13.11.06 |
| Interconnections DFBAO, DFBMA and DFBMC. | 13.11.06 |
| WRL connection at DFBMC, DFBMA and DFBX | 13.11.06 |
| 120A cables positioning at DFBAO, DFBMA and DFBMC | 13.11.06 |
| Q6-Q11L8 leak test envelope | 13.11.06 |
| Interconnections of DFBAN and DFBMH | 13.11.06 |

Milestones: Test Schedule

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| Week 45 | Interconnections |
| End week 46 [18.11.06] | Leak Test |
| End week 47 [24.11.06] | Pressure Test |
| Week 47-48 | EE sensor tests in RR77 |
| Week 48 & 49 | Purge and filling |
| Week 49 | Dry Run |
| Week 49 | Short Circuit tests of 60 A |
| Week 49 [07.12.06] | Diesel Tests |
| Week 49 | ELQA-TP4B (Phase I) |
| Week 50 | Flushing |
| Week 50 [15.12.06] | ELQA-TP4B (Phase II) |
| Week 02 [15.01.07] | ELQA-TP4B (Phase III) |
| Week 03 | Cool Down Sector 78 |
| Week 05 | Preparation for Powering Tests |
| Week 08 | Decision on DFBs clamps disconnection from Sector 78 (to use them in Sect45 and Sect81) |



Next RAT meeting

Tuesday, February 6th 8:30 @ P8 2889-R-009

Mirco Coccoli