

## *Preparation of Cool-Down in Sector 78 RAT* Réunion Avancement Travaux

HARDWARE COMMISSIONING COORDINATION - WEEK 50

14 December 2006 8:30 2889-R-009

Present: D.Bozzini, V.Chareyre, P.Chambouvet, J.Etheridge, S.Feher, J-C.Guillaume, K.H.Mess, F.Millet, B.Perea Solano, R.Rabehl, S.Russenschuck, R.Saban, R.Schmidt, J-P.Tock, F.Seyvet.

### **Preparation of the Cool-Down in Sector 78**

---

#### ELQA:

- R.Saban informed that the QBBI.A21R7 interconnection had been opened yesterday and had been inspected with an endoscope, which showed a contact between the lira and the support of the corrector magnets.
- Further reflectrometry tests are planned for today.
- K-H.Mess stressed that the best solution would be to do a repair in the tunnel.
- There will be no flushing today. Once F.Seyvet has finished his activities in the interconnection, he should inform F.Millet in order to re-start the flushing.

#### AC/DC cabling:

- J-C.Guillaume informed that the 60A orbit corrector shorts would be repaired today by INEO.
- J-C.Guillaume informed that the repositioning of 2 x 13 kA power cables on DFBAO and 1 x 13 kA power cable on DFBAO was finished yesterday.

#### DFBX:

- The 100 V tests on the DFBXG have been carried out and the coating of the current leads will start today. P.Chambouvet needs to perform some functional tests of the current lead heaters. He will do this activity

### **Open Issues**

---

#### AC non-conformity

- 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

- 12.12.06 Short-to-ground in QBBI.A21R7 (Lyra side) (D.Bozzini, F.Seyvet)
- 30.11.06 Non conformity temperature sensor cables need repair LSS7R (D.Bozzini, A.Suraci)
- 25.11.06 Functional test on the leads heaters: DFBAO, DFBXG (P.Chambouvet)
- 22.11.06 Pre-connection of 120A cables in LSSR7 (TS/EL) - PC Non conformities (H.Thiesen)

#### Vacuum

- 12.12.06 One Pressure Gauge in DFBs cannot be read (F.Millet)

#### Cryogenics

- 22.11.06 Cryo-valves remote control in CCC by AB/CO (F.Millet)
- 22.11.06 Control of quench valve (F.Millet)

#### DFB Commissioning

- 12.12.06 Repositioning of 1 DC cable on DFBAO and of 2 DV cables on DFBAN (all 13kA) (J.C.Guillaume)
- 08.12.06 DFBXG 100V test on current leads (S.Feher)
- 29.11.06 Pumping of Current Leads insulation vacuum for DFBX (S.Feher)

#### 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

- 13.11.06 BPM connection in Q2, Q3, Q4, Q5, Q6, Q7-wk50 (J-C.Guillaume & R.Jones)

### **Closed Issues**

---

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
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 Runs)	23.11.06
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**

---

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 51	Cool Down Sector 78



**Next RAT meeting**

**Friday, December 15th 8:30 @ P8 2889-R-009**

B.Perea