

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

HARDWARE COMMISSIONING COORDINATION - WEEK 47

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Present: E.Barbero Soto, N.Bourcey, S.Brown, P.Chambouvet, V.Chareyre, M.Coccoli, J.Etheridge, K.Foraz, S.Fratianni, A.Grimaud, J.C.Guillaume, W.Maan, F.Millet, B.Perea Solano, A.Poncet, R.Saban, R.Schmidt, A.Suraci.

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

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AC cabling non-conformity:

- S.Brown reported the decision which was taken at the meeting yesterday on the strategy to be adopted to close the AC cabling non-conformities. For the orbit corrector power converters, new cables of a section of 2.5 mm<sup>2</sup> will be pulled during next week before the cool down starts. For the others (vacuum, quench protection, cryogenics) the junctions with the 1.5 or 2.5 mm<sup>2</sup> cable will be redone following the recommendations of SC. This will be carried-out sometime in January. The exact calendar has to be worked out with Katy. Also, the corrections of this non-conformity will be planned together with Katy or Esther.

Instrumentation cabling:

- A.Suraci needs scaffoldings. A sharing of the TS-HDO scaffolding between L.Prever-Loiri, I.Moya and A.Suraci has been arranged.
- J.C.Guillaume confirmed that the non-conformities (cable lengths and shorts) will be resolved in time for the tests of A.Suraci next week.

Vacuum:

- Pressure test foreseen for Friday. The tunnel from RR73 to UJ87 will be not accessible from 13:00. The tests will start at 14:00.
- W.Maan informed that all the leaks that had been localized have now been repaired. An effort to localize the others is ongoing. The updated table showing the status of leak detection prepared by P.Cruikshank is given in the appendix.

Cryogenics: -

DFB Commissioning:

- P.Chambouvet informed that the pumping of the current lead insulation vacuum in DFBN is ongoing today. There is a parallel activity carried out by I.Moya and S.Gillet on DFBN; this activity is compatible with the insulation vacuum pumping.

#### Safety:

- B.Perea is preparing a planning with *consignations* and *deconsignations* of the monorail according to scheduled activities.
- B.Perea informed that today between 4pm and 5.30pm the zones Pt7 and Pt8 will be *deconsigné*.
- An alternative to consignment, which consists in a solid insulating protection of the "gaine" of the monorail, is being investigated.
- Works in UG76 not possible until the test of the quench line is not completed. (practically from the Cool-Down start on 18<sup>th</sup> Dec to week 4 of 2007).

Preparation of Powering Procedure Test (previously called Dry Run): -

AOB: -

#### **Open Issues**

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##### AC non-conformity

- 21.11.06 Transport and installation of the heater system of the current leads for RR77 and UA83
- 21.11.06 Non-conformity on instrumentation cables (temperature sensors on current leads)
- 13.11.06 Non-conformity of the crates of cryo instrumentation (inrush current)
- 13.11.06 Non-conformity of the AC cabling of the crates under the magnets. This concerns ACR, MEL, orbit corrector power converters & VAC.

##### DC cabling

- 23.11.06 Cable temporary positioning on the transport side of the tunnel
- 23.11.06 Adjustment of cable length on DFBAO
- 22.11.06 Missing labels on DFBAO instrumentation cables
- 22.11.06 Pre-connection of 120A cables in LSSR7
- 20.11.06 Galvanic insulation installation of 600 A cables to the DFBAO
- 13.11.06 Non-conformity of the DC cabling of the orbit corrector power converters
- 13.11.06 6 kA and 13 kA cables positioning at DFBAO, DFBMA and DFBMC

##### Assembly

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##### Vacuum

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##### Cryogenics

- 22.11.06 Cryo-valves remote control in CCC by AB/CO
- 22.11.06 Control of quench valve

20.11.06 DFB instrumentation cables to be connected

17.11.06 Instrumentation cable HV tests in LSS8L

#### DFB Commissioning

13.11.06 EIQA-TP4-A in the DFBAO, DFBAN, DFBAAX

17.11.06 Pumping of insulation vacuum DFBAN, DFBAO, DF BMC, DF BMA, DF BXG

#### Safety

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

23.11.06 Wooden structure for UA access restriction (that will allow transport).

23.11.06 Preparation of a prototype insulating protection (derived from a plastic tube) of the monorail by J.C.Guillaume and approval by J.Etheridge.

23.11.06 Water leak on the tunnel concrete wall to be fixed (33L8).

23.11.06 Planning of *consignations/deconsignations*

16.11.06 Cool down safety procedure & access conditions

#### Preparation of powering test

22.11.06 Pretest of 60A converters in sector 78, location C16L8.

22.11.06 Installation of flexible cables by CV (UA83)

16.11.06 Water circulating in UA83 for the Powering Procedure Test: filters need to be checked.

#### AOB

13.11.06 BPM connection in Q2, Q3, Q4, Q5, Q6, Q7

13.11.06 Quench protection continuity tests and cables assignment LLS7R (DFBMH, DF BAN) and LSS8L (DF BMC, DF BMA and DF BX)

#### **Closed Issues**

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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 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
ELOA-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	Diesel Tests

