

RAT Réunion Avancement Travaux **SCT** in **UJ33**

HARDWARE COMMISSIONING COORDINATION

◆ ◆ ◆
NEXT RAT meeting
Thursday 19.04
8:30 in CCC
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24hr HEAT RUN in UJ33 – 19th April

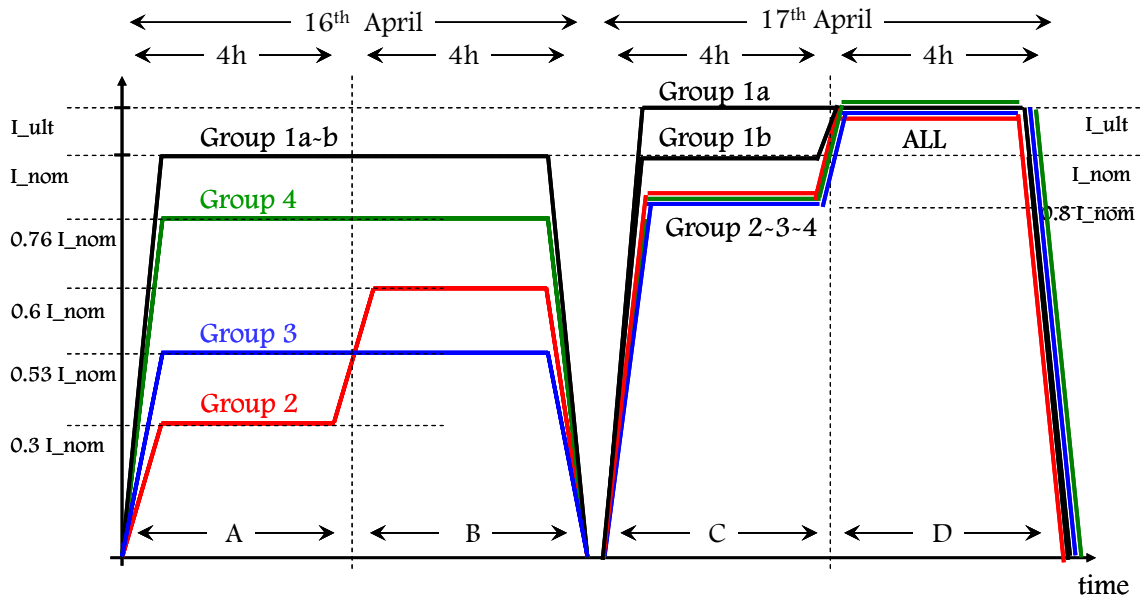
- HEAT RUNS:
 - **8hr run: see results below**
 - **24hr heat run: tomorrow 19.04**
 - **Contact people list attached**
- AC: -
- DC cables: -
- Power converters: -
- PIC and CCC: -
- Cooling and Ventilation:
 - *From Kenneth Olesen: **TS-CV confirmed that the ED circuit of the sector 2-3 will be normally operated the 19th and up to 8:30 of Firday 20th.***
- WIFI: -
- WorldFIP: -
- Energy Extraction:
 - 13kA EE sys Interlock test will be performed after the 24hr run: Knud will provide a Converter of 1400A.
 - These test will be performed on Monday 21st of May as agreed between Jean-Claude, Knud, TS-IC-PL, and TS-HDO.
- Balisage: -
- Installation: -

RESULTS Power Converter 8hr HEAT RUN in UJ33 – 16th -17th April

PC GROUP DEFINITION – 80 PC

	Group 1a	Group 1b	Group 2	Group 3	Group 4
Initial Utilization Factor [%I _{nom}]	1	1	0.3	0.53	0.76
All but...		RCBCH6.L3B2 RCBCV6.L3B1 RQ6.L3B1 RQ6.L3B2 RQ6.R3B1 RQ6.R3B2 RCBCH6.R3B2 RCBCV6.R3B1 RCBCH10.R3B1 RCBCV9.R3B1 RCBCH8.R3B1 RCBCV7.R3B1 RCBCV10.R3B2 RCBCH9.R3B2 RCBCV8.R3B2 RCBCH7.R3B2	RCBWH5.L3B2 RCBWV5.L3B1 RCBWV4.L3B2 RCBWH4.L3B1 RCBWH4.R3B2 RCBWV4.R3B1 RCBWV5.R3B2 RCBWH5.R3B1	RQT4.L3 RQT4.R3	RQT5.L3 RQT5.R3

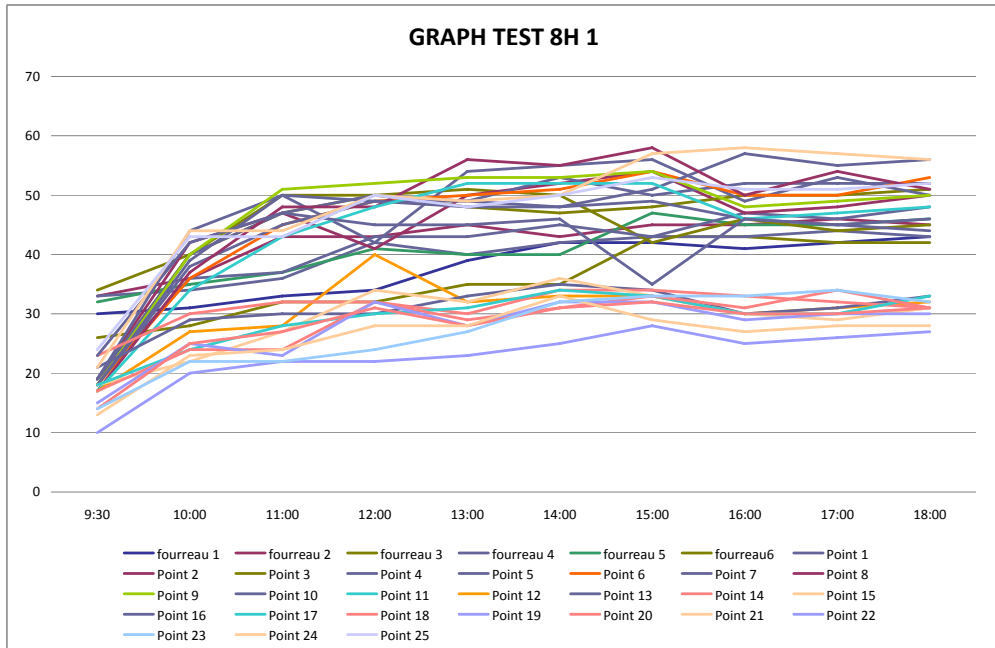
PLATEAUX DEFINITION



		A	B	C	D
Thermal load [kW]	UJ33	54.5	55.6	66.9	72.8
In different areas	UP33	6.2	7.5	9.8	16.6
DC cables	Canniv.	2.1	2.6	3.3	5.7
	Tunnel	72.1	79.1	96.4	137.5

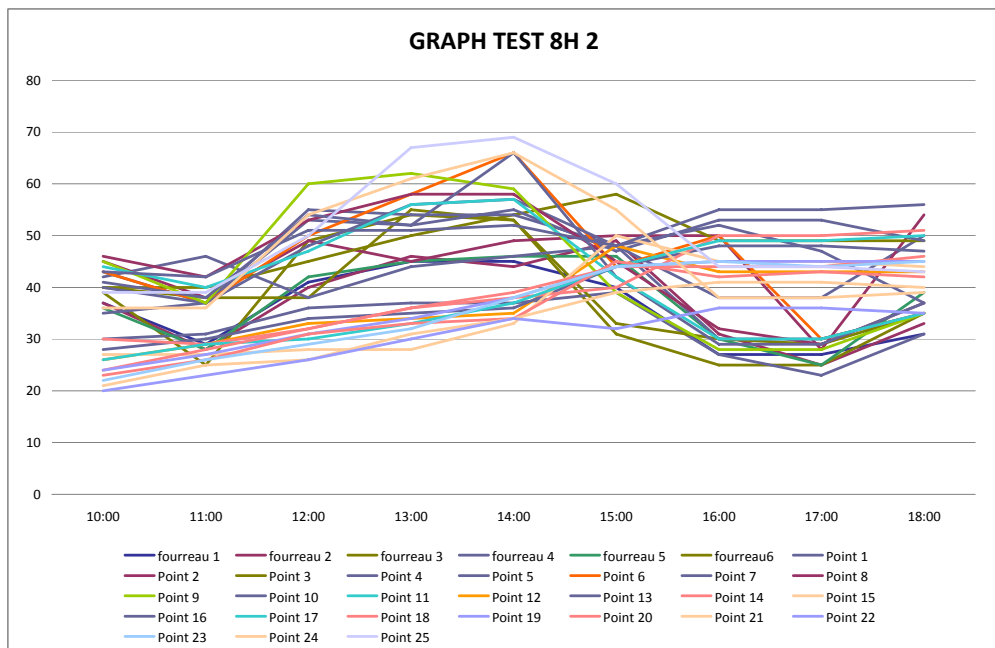
RESULT and CONCLUSIONS:

- **During the first 8hr run – 16.04 –** only one hot spot was recorded close to entrance of the DC cables in the ducts UJ33-RA34 where the temperature rose up to ~80 °C; in general **the temperature stabilized at ~55-60 deg**. The cables were re-arranged. In agreement with Jean-Claude Guillaume and Baptiste Lebeau it was decided to rise the current level to I_{ult} during the second 8hr run.



(Graph from Baptiste Lebeau)

- **During the second 8hr run at I_{ultimate} – 17.04 –** no hot spot were recorded and the maximum temperature recoded did not exceed 70 °C.



(Graph from Baptiste Lebeau)

- With the above results we are confident to start the **24hr run at I_{ult}** for all the PC as usual still maintaining a high surveillance of the temperature of the zone and the cables.
- NOTE: **during the run three circuits RQ4-RQ5-RD34** (warm magnets) powered from the surface were **not included**.

PROBLEM and SOLUTIONS

- 4 times during the run different 600A PC tripped. After investigations the fault was addressed to the local ventilation system of the power modules of the converters. **This can be a problem that could affected all the PC of 600A – 10V (RPMBA- RPMBB) also in UA83-UA87**; AB-PO is going to fix the problem in the UJ33 during Wednesday (18.04) to be ready for the 24hr heat run of Thursday (19.04). Afterward AB-PO will launch a campaign to verify all the RRRRR 600A-10V system in the machine.
- After the 1st heat run it was discovered that the temperature at the bottom of the **600 A EE - DYPE12 rack** (connected circuits:RQTL9.R3B1 and B2) **was 34 degrees, whereas, at the same measuring point, all the other racks had approximately 22 degrees**. Investigation shows that a large number of 600 A DC cables have been placed underneath this rack and are heating up the area in the false floor. Inside this rack, the temperature at the top reaches temperatures outside the specification and therefore correct functioning of the 600 A EE systems mounted inside this rack cannot be guaranteed. **AT-MEL team will put in place a thermally isolated shield before the 24h run to not stress thermally the electronics**. The installation will be followed by AT-EML/TS-EL/TS-HDO and HCC. The systems in this rack have been prepared for special measurements for the holding coil problem. MEL team need these measurements (at ultimate current level and thermally stabilized) to finalize our investigation.

Open Issues

17.04	Polarity check on 2 PC is missing
17.04	PC – power module fan of the 600A-10V
17.04	DYPE12 rack – EE electronics over-heated
12.04	13kA interlock tests will be performed during w21.
02.04	8hr heat run cancelled: cooling water circuit of P2 maintenance
08.03	13kA water cooled cables to be installed in w16-17

Closed Issues

21.03	Mag. Interference test (13kA EE) - Access restriction	04.04
15.03	Connection of the 13kA switches to power	02.04
30.03	Low Wifi network signal in UJ33	02.04

08.03	Definition of the powering strategy for the heat runs	30.03
15.03	Too short WorldFip cables in 600A EE sys racks	21.03
13.03	Re-fixing of the cables of the 13kA EE System in RA38	19.03
13.03	Temperature sensors positioning for the heat runs	19.03
13.03	WorldFip QPS segments to be validated	15.03
08.03	Powering of the PIC racks (CYCIP01 - CYCIP02)	13.03
08.03	PIC system IP address verification	13.03
08.03	Grounding missing (DQR, DJRB box, Roese Station)	13.03
08.03	Missing cable: link between Roese Station and CCC	13.03
08.03	Cable 48 wires to be replaced on the DJPC	13.03

Boris for the Hardware Commissioning Coordination



Open Issues SCT in RR73 and UJ76

01.03	Leakage in the two water cooled cables in RR73 (Baptiste)
01.03	Disconnections of the cables from the EE in RR73 (Baptiste)
01.03	AU unexpected during 24hr run. TS-EL investigating
22.02	Polarity tests do not include the warm magnets cables
22.02	Verification of the EE water cooled cables of the odd points
22.02	Wrong filter position in the PC cooling circuits
08.02	Temporary WIFI cable to be replaced by TS/EL – IT/DI

Open Issues SCT in UA67 and UJ67

13.02	Report on the AUG-
12.02	PM generated but stacked in local
12.02	Few labels missing for cables identification
05.02	Little ducts between UA and RA not closed during the 24hr
02.02	RSF2.A67B1 and RSF2.A67B2 PIC cables to extend
02.02	NC opening on the bad connection of the "plages" on the 6kA racks
08.01	EE fan rotation problem – all ring



24 hours heat run in RR73 and UJ76 – Contact people

Hardware commissioning coordination:

Boris Bellesia	162483
Matteo Solfaroli	160611

Power converters:

Responsable AB/PO:	Valerie Montabonnet	164432
(en cas de absence)	David Nisbet	164223

For AB/PO – in the tunnel:

Journée 8:00-17:00 heures:	Jean-Philippe BOUDONNAT	163667
Journée 17:00 -20:00 heures:	Olivier FOURNIER	160238
Nuit 20:00–02:00 heures:	Halil Oruc	165193
Nuit 02:00-8:00 heures:	Jérôme CHAILLEUX	167379

Il est à noter que le GSM 162333 est transmis d'une équipe PO à une autre. Ce numéro permet de joindre à tout moment l'équipe PO en place.

Energy extraction system:

Knud Dahlerup-Petersen

163279

DC cables:

Journée 9:00a 20:00 heures:	B.Lebeau	160913
Nuit 20:00-02:00 heures:	M. Henry	164879
Matinée 02:00-08:00 heures:	F.Dendani	163473

CCC operators: *CCC mobile: 165385*