

HARDWARE COMMISSIONING COORDINATION

October 25, 2006, 8:30 in SX6

Present: Juan Blanco, Maria Paz Casas-Lino, Alejandro Castañeda, Knud Dahlerup-Petersen, Julien Kis, Robin Lauckner, Jean-Pierre Malod-Dognin, David Nisbet, Ronaldus Suykerbuyk, Jacques Toullieux, Antonio Vergara, Markus Zerlauth.

**SCT in UA63**

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**First 8-hour heat-run**

David summarises the problems during the 8-hour run of yesterday (24.10):

1/ 11:32:04 Reduced water flow causes Q5 and Q9 to trip on a CABLE\_WATER fault.  
2/ 11:32:04 Q10 trips on a FB\_LOOP due to a change in load resistance (due to water flow?)  
3/ 11:32:20 All large converters (Q4, Q5, Q8, Q9 and Q10) detect a CABLE\_WATER fault and trip OFF.  
4/ 11:44:41 RQ9.L6B1 is restarted without RQ9.L6B2, causing the converter to trip in FB\_LOOP  
5/ 11:49:00 RQ5.L6B1 detects a CABLE\_WATER fault and trips OFF. Filter is found to be completely blocked.  
6/ 12:04:11 RQ9.L6B1 is restarted without RQ9.L6B2, causing the converter to trip in FB\_LOOP  
7/ 12:05:36 RQ4.L6B2 detects a CABLE\_WATER fault and trips OFF. RQ4.L6B1 also detects a CABLE\_WATER fault afterwards.  
8/ 12:05:36 RCBYH4.L6B2 trips on FB\_LOOP due to coupling from RQ4 tripping OFF.  
9/ 12:05:36 RQ10.B1 detects a CABLE\_WATER fault and trips OFF. RQ10.L6B2 also detects a CABLE\_WATER fault afterwards.  
10/ 14:30:47 RQ4 detects a CABLE\_WATER fault and trips OFF during tuning of limit threshold by TS/CV. RCBYH4.L6B2 trips on FB\_LOOP due to coupling from RQ4 tripping OFF.

Joaquín informs after the meeting that a pressure regulator in the pump (which likely was one of the failure sources) has been repaired. This should solve the CABLE\_WATER faults as long as the correctness of the water filters is assured.

CV point out their disagreement with the logbook entrance at 16:23

*On request of david we will stop the PC's at 16:30 because there will be some intervention from TS/CV to repair a pump.*

they did not ask for an earlier end of the heat run at 16:30, instead they just asked when it was expected to finish in order to carry out their intervention.

Based on the above, the following actions are proposed by AB/PO:

1. Clean all water filters in the UA before the next 8-hour run on Monday (30.10).
2. Inform to operators that the MQM coupled circuits have to be always restarted in pairs.
3. Q4, Q8 and Q10 elettas were less sensitive to change in flow than Q5 and Q9.
4. Verify the cabling of RCBYH4.L6B2

## New Issues

- The DC cables in the three 13kA energy extraction facilities are swapped giving a negative voltage across the DQR (which are not bipolar) due to the wrong polarity. It has been decided to correct the cabling for that:
  - RB, RQF and RQD cables have to be emptied. Quadrupole circuits are already empty, and the RB will be clear this morning (TS/CV)
  - Cabling must be corrected (TS/EL)
  - Circuits must be filled again (TS/CV)

These tasks will be completed between today (25.10) and tomorrow morning (26.10).

The error has occurred because FLOHE has used a very old version of the electrical drawing.

- The 600A EE facilities have performed well during the heat run. Knud remarks that the current balancing has worked better than ever since the protection of the racks from dust is being made by MEL.
- The 13kA EE interlock tests with current will start as soon as the corrections explained above are applied.
- The ROSE station does not work due to air in the secondary circuit. CV will send somebody to repair it. Joaquín says that these kinds of problems are better solved by calling to the TCR.
- The PIC tests started on Monday (23.10) for RB and RQD, RQF will be completed between today (25.10) and tomorrow (26.10). A problem has been found with the connection between the temporary QPS box and the PIC. The cables were connected to the right PIC but to the wrong rack. The reason is that the QPS racks DYPG02 and DYPG03 have been inversed on the implementation plans since the time the respective DICs were submitted. Markus proposes that verification is done for the coming tests before the PIC tests start in order to save time, since the companies are not verifying these cabling anymore.
- Robin informs that problems with some alarms were corrected during the heat-run.
- The 8-hour run sequence (of the sequencer) has to be corrected since yesterday's run was done using the 24-hour one. This change is transparent for the rest of systems (see minutes from yesterday meeting for details).
- David thinks that it would be good that CV provides the cooling schemes for the next points.
- Jacques informs that AC measures were taken during the run. They still have some problems with the data acquisition that are being solved. In principle test figures look right.

- Antonio informs that HCC is preparing the AUG and UPS test. It is not clear yet whether both tests are necessary or not. Some discussions can be carried out on the HCC meeting on Thursday (26.10). David proposes that the test is not carried out at nominal current but at  $i_{min\_op}$ .
- Polarity tests in UA63: They are planned to start on Friday (27.10).

## Open Issues

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09.10	Installation of the FCR (reduced size) by TSIC.
09.10	Ventilation caps on the cable ducts between UA and RA.
12.10	Alarm <i>debit de fuite</i> . Under study.
23.10	Wrong spin of the DQR fan.
09.10	Endurance tests of EE. Waiting date from IC

## Heat Runs and Test Schedule

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24.10	8-h heat run: All converters except 13 kA – To be repeated
30.10	8-h heat run: All converters (pre-test 27.10)
01.11	24-h heat run (pre-test 30.10)

## Closed Issues

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05.10	Fire detection installed.	05.10
05.10	Short circuit parts in UA63.	10.10
09.10	Cleaning of the area.	10.10
09.10	"Tableau BT" tested. Conformity certificates ok.	10.10
09.10	Detailed schedule SCT in UA63 available.	10.10
09.10	Wifi operational.	10.10
09.10	"Balisage" of the UA63 in place.	11.10
09.10	Worldfip operational. Gateway operational.	11.10
10.10	Installation of the FGC completed.	10.10
09.10	EE, "test isolement" on the QF and QD. Done.	13.10
09.10	Water leakage on the RQF to be verified. Done.	13.10
09.10	ED water circuits balancing. Done.	13.10
09.10	Few modules 120 and 600A to be installed. Done.	13.10
09.10	Flashing boxes and "baches" for the short circuit parts.	13.10
17.10	PIC installation done.	17.10
09.10	Elettas calibration. Done.	19.10
20.10	Verification of $I_0$ .	20.10
16.10	Correction of cabling EE	17.10
16.10	PIC installation	17.10
16.10	Check of the elettas. Done.	23.10
23.10	Three Wi-Fi access points are operating	23.10
19.10	ABPO tests 600A with EE	24.10
	RQi converters tested	25.10



**Next RAT meeting**  
**Friday October 27, 8:30 in point 6 (SX6)**  
**Room 2685/1-002**

Maria Paz Casas-Lino  
Antonio Vergara