





Powering Tests

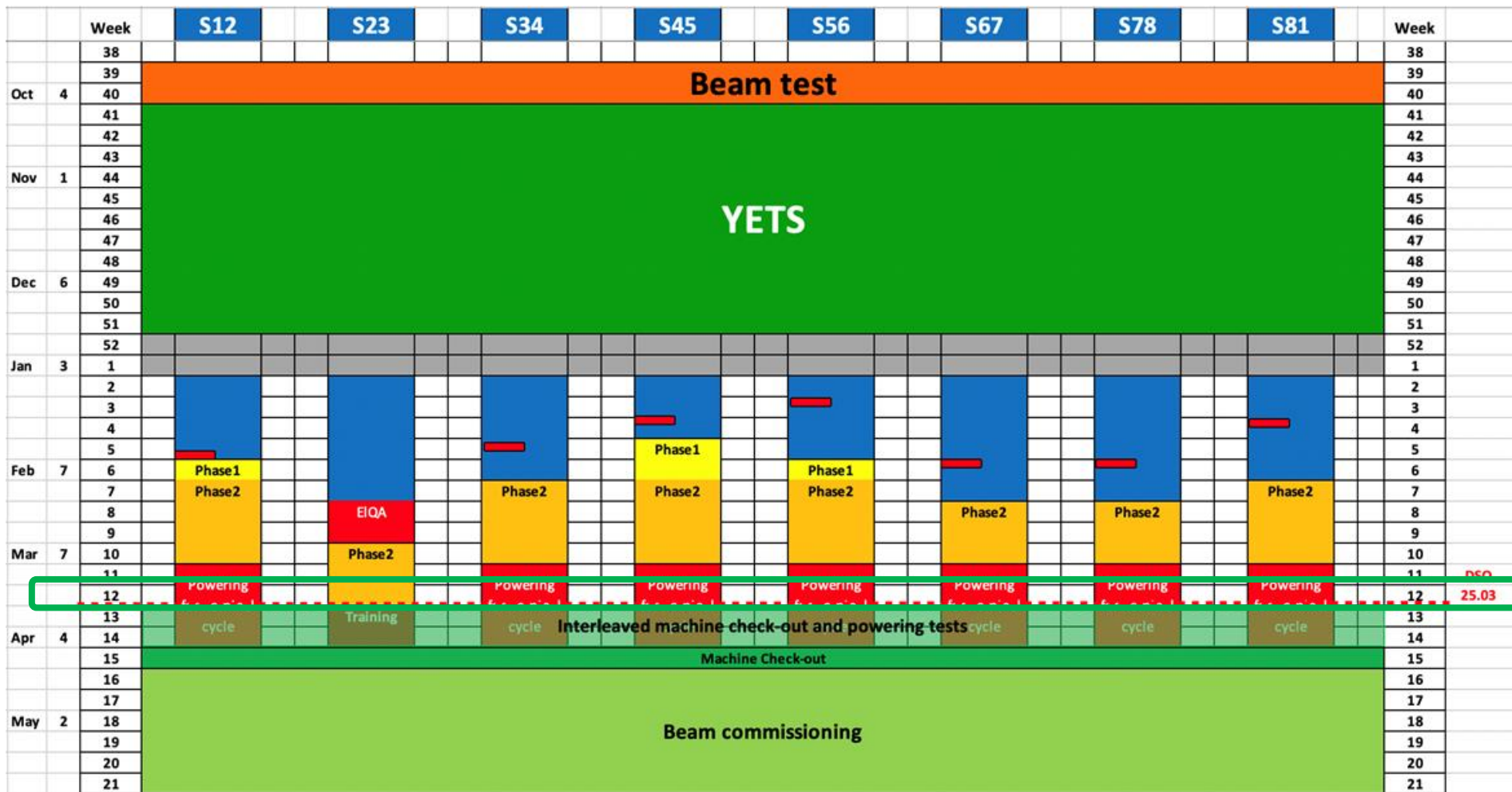
Coordination meeting #108

A. Apollonio, M. Solfaroli

21.03.2022

Powering tests planning

 EIQA



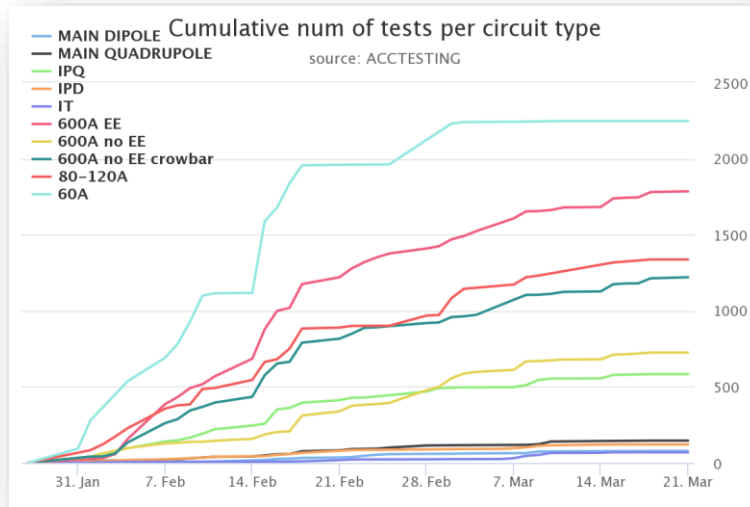
DSO
25.03

Powering tests planning

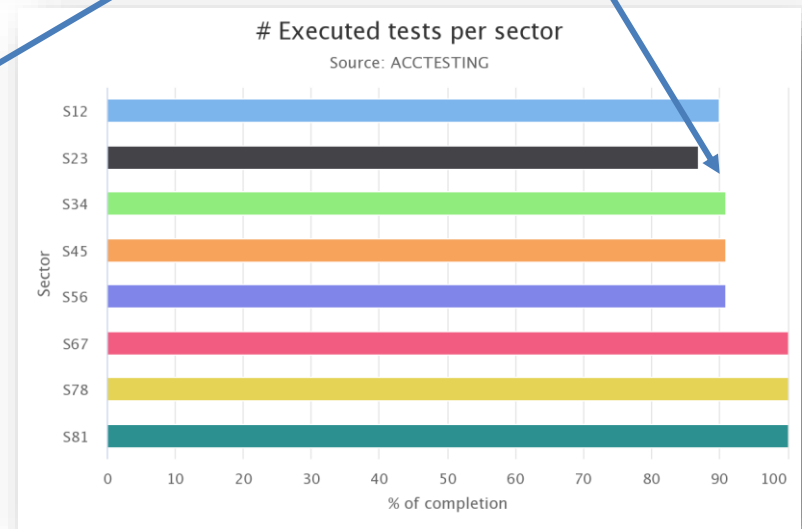
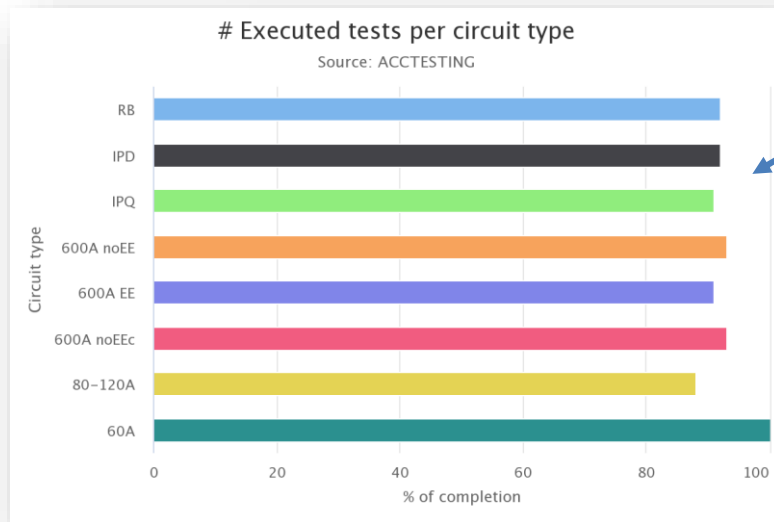
- Access possible **Mon-Wed** between 9am and 5pm
- **Thursday – machine closed**
- **Friday – DSO test**
- Boil-off of D3L4 done yesterday

- Meetings:
 - Last meeting will be on coming Friday
 - Mon-Wed-Fri LHC coordination meetings will be done @9am
(<https://indico.cern.ch/event/1136244/>)

Powering tests advancement



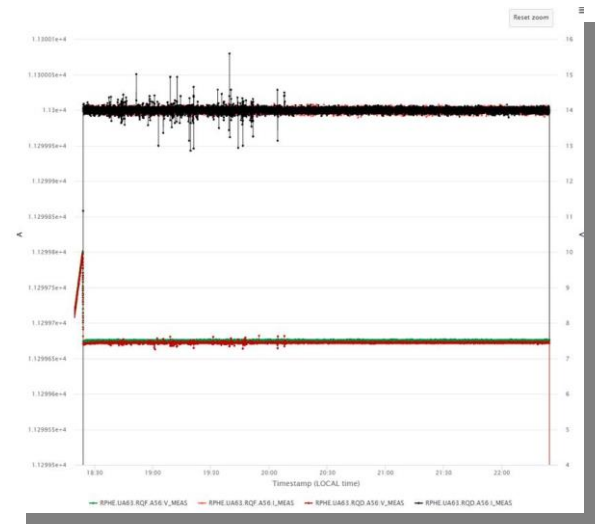
The <100% in sectors other than S23 is an **“artefact”** of the re-activation of PIC-BIC interlock tests (1 test per circuit)



All sectors BUT S23

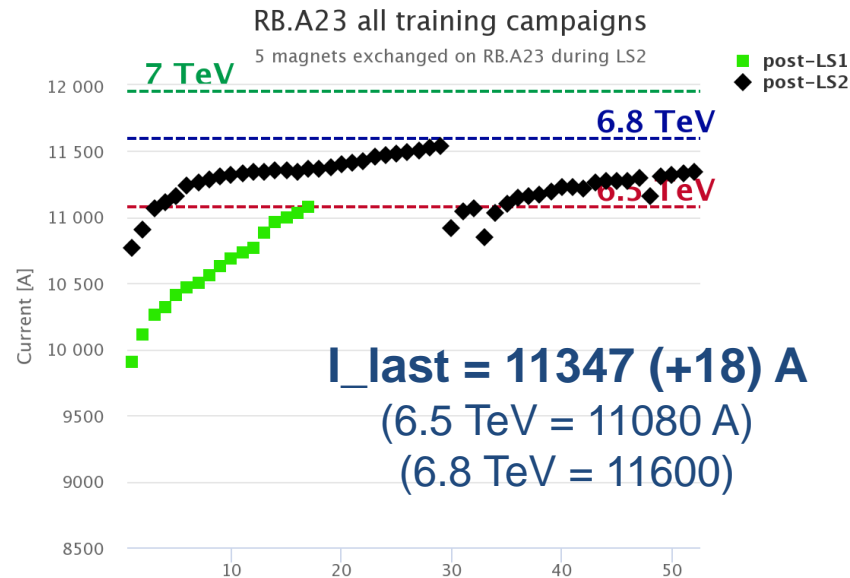
All circuits commissioned, but:

- **RQD/F.A56 – completed**
 - **Noise is NOT a problem for operation**
- **RQ7.L4 FPA unsafe**, intervention done with EN-EL, problem solved
- **PIC-to-BIC** tests done in S45, S56, S67, S78, S81

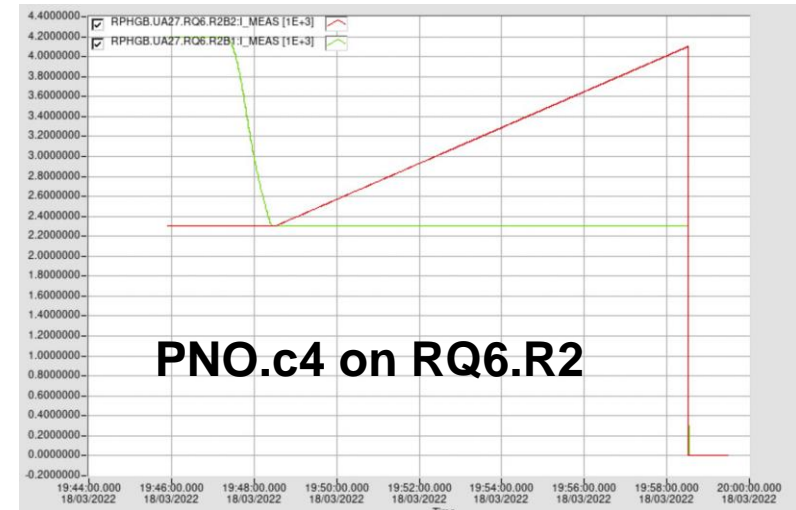


RB.A56, RB.A81 had 1 quench on flatop

Sector 23



- **RB:** Training continues with check from QPS team of the settings before each quench. **19 circuit quenches done**
- **RQD/F:** see next slide
- **IPQ/D:**
 - RQ7.R2: ready for nominal current
 - RQ6.R2: quench with unbalanced apertures
- **600A:** steps at nominal current ongoing

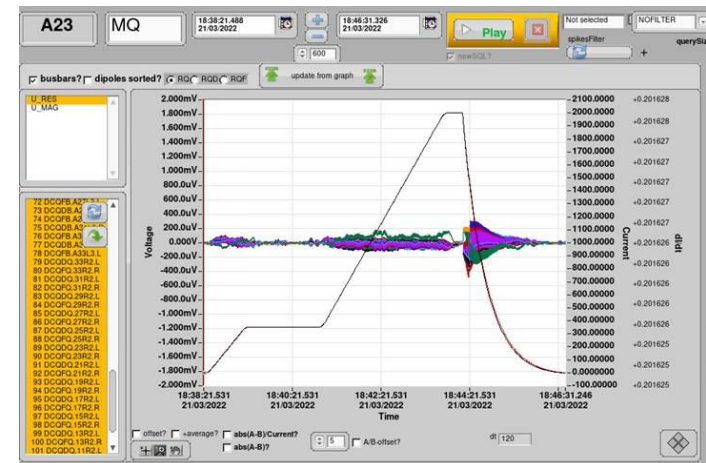
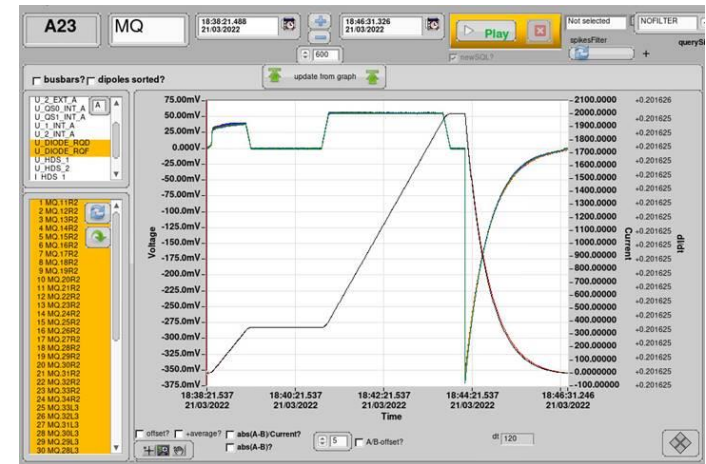


Sector 23 – RQD/F

- EIQA intervention confirmed the analysis: Vtap EE015 was found open on the connector D21 (module C, pin 2), and also on the PCB itself (discontinuity below the cover flange, seems to be at the level of cold mass, tbc with TDR analysis) → Vtap EE015 (D21-C2) bridged with Itap EE013 (D21-A2) at the level of the IFS ([NCR 2719022](#))

All nQPS signals look ok
the bus bar splice protection signals (DQQBS:U_RES) are well compensated

Powering tests can re-start!



Intervention on R2E-LHC600A-10V

- **Problem with the ventilation** of the R2E 600A converters identified
- It can be solved by **adjusting a potentiometer** that controls the fans (1 day per RR)
- **PCC tests are being repeated** after the intervention
 - RR13: Fri 11.03 - done, all PCC passed
 - RR17: Wed 9.03 – done, all PCC passed
 - RR53: Mon 14.03 - done, all PCC passed
 - RR57: Tue 15.03 – done, all PCC passed
 - RR73: Wed 16.03 – done, all PCC passed
 - RR77: Thu 17.03 – done, all PCC passed

FPA special tests with snapshots

	2 kA		5 kA		8 kA		11 kA	
	FT	10 A/s	FT	10 A/s	FT	10 A/s	FT	10 A/s
RB.A12		29.09.2021 @17:20	18.03.2022 @18:02	17.03.2022 @17:37	17.03.2022 @08:25		14.03.2022 @18:00	21.03.2022 @17:45
RB.A23		07.01.2021 @17:30			11.03.2022 @16:50			
RB.A34	21.03.2022 @17:30	17.09.2021 @17:00	17.03.2022 @14:39	17.03.2022 @17:38	17.03.2022 @08:20	14.03.2022 @11:45	14.03.2022 @18:00	15.03.2022 @18:10
RB.A45		14.07.2021 @17:30		17.03.2022 @17:39	17.03.2022 @08:20		14.03.2022 @18:00	15.03.2022 @18:10
RB.A56		15.07.2021 @17:25		17.03.2022 @17:40	17.03.2022 @08:20		14.03.2022 @18:00	15.03.2022 @18:10
RB.A67	10.03.2022 @10:40	16.07.2021 @16:50	03.03.2022 @17:50	10.03.2022 @11:25	10.03.2022 @12:05	10.03.2022 @14:40	14.03.2022 @18:00	11.03.2022 @17:00
RB.A78	10.03.2022 @10:40	25.02.2022 @16:45	10.03.2022 @11:25	10.03.2022 @12:50	10.03.2022 @14:40	10.03.2022 @16:50	11.03.2022 @17:00	21.03.2022 @17:30
RB.A81		11.08.2021 @17:15				17.03.2022 @17:36		21.03.2022 @17:30

FPA tests with snapshots will be carried out in all sectors following request from MP3