MP3 Workshop
March 2011

Status after Hardware Commissioning 2011

RQTL9.L7B1

Jean-Philippe Tock

RQTL9.L7B1

RQTL9.L7B1 : Dispersion suppressor quad **Link to MTF**

ID : 256050, Circuit version : STUDY, Layout version : STUDY

Power Converters in the Circuit	PC Locati
RPMBB.RR73.RQTL9.L7B1 (MTF, TE-EPC Database)	RR73
Magnets in the Circuit	**Number**
MQTLI	2
Current Leads in the Circuit	
DFLBS.7L7.5	
DFLBS.7L7.6	

Magnets per Power Converter

RPMBB.RR73.RQTL9.L7B1

MQTLI 2

I Nominal :	550 A	I Ultimate :	600 A
I Offset :	.0 A	I Overload :	660 (+-3%) A
L tot :	.240 H	R tot :	.002778 Ohm
Ramp Time :	120.00 s	max(di/dt) :	5.000 A/s
U leads :	.120 V	U Extr :	.510 V
U Boost :	1.200 V	U Coll :	1.667 V
Warm Cable Verification :	✓		

Circuit Parameters

Operational Temperature :	1.90 K
Beam Dump Request :	NO
Powering Subsector Abort :	NO

Download the XML circuit definition of the circuit RQTL9.L7B1

LAYOUT DB

Circuit name: RQTL9.L7B1

Link to circuit in MTF

Click to access EDMS Powering Procedure document

Operational parameters for Power Converter: RPMBB.RR73.RQTL9.L7B1

PARAMETER NAME	VALUE	UNIT
ACC_PCS	.1	A/s^2
ACC_PNO	.1	A/s^2
DIDT_PCS	1.5	A/s
DIDT_PCS_LOW	1	A/s
DIDT_PNO	1.5	A/s
I_EARTH_MAX	.01	A
I_ERR_MAX	.018	A
I_ERR_PCC_MAX	.36	A
I_HARDWARE	528	A
I_INTERM_2	200	A
I_PCC	45	A
I_PCC_MID	10	A
I_PCS	200	A
I_PCS_MID	80	A
I_PNO	400	A
TIME_ACTIVATION	259.179	s
TIME_CROWBAR	2	s
TIME_PCC	10	s
TIME_PCS	240	s
TIME_PCS_MID	240	s
TIME_PNO	1500	s
TIME_PNO_CL	1500	s
TIME_ZERO	30	s

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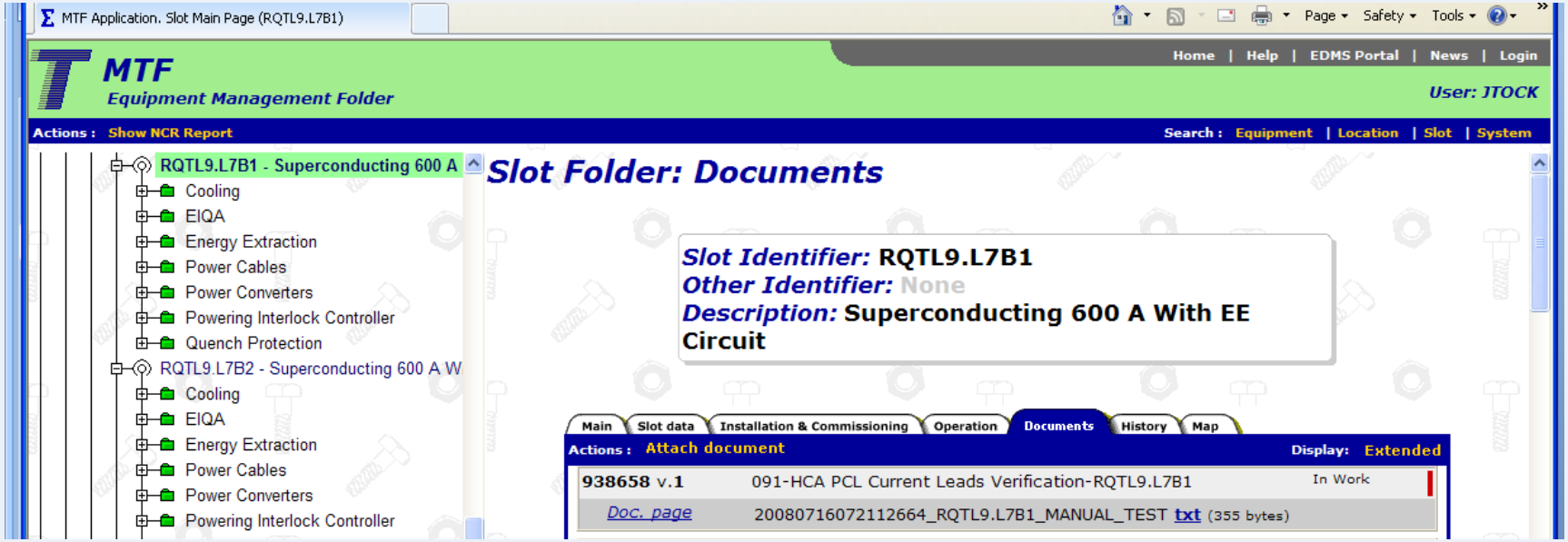
No non-conformity attached to the circuit in MTF, No issue in MP3 tracking



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2008 commissioning campaign:

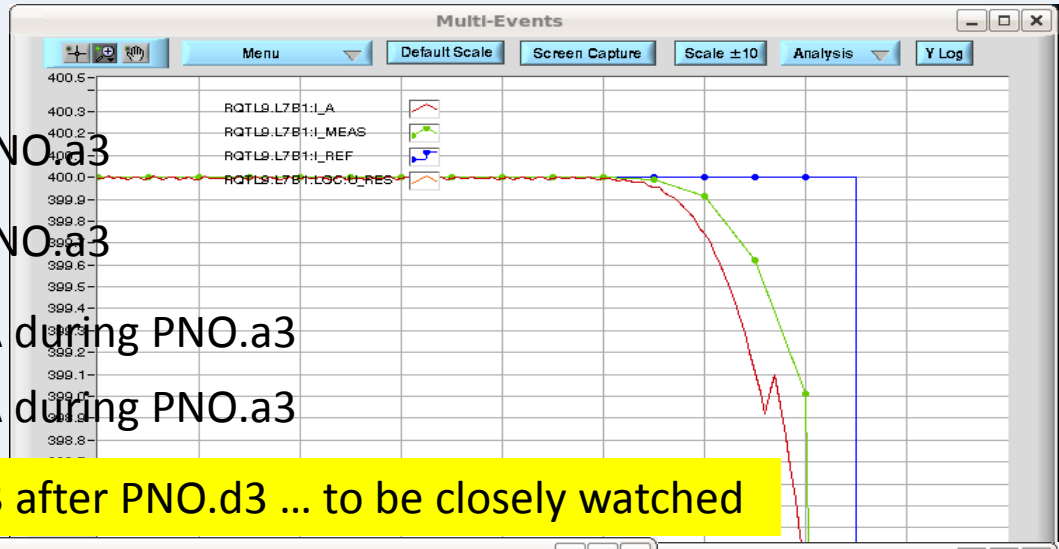
29/07/2008: 17h47 : Trip at 400 A during PNO.a3

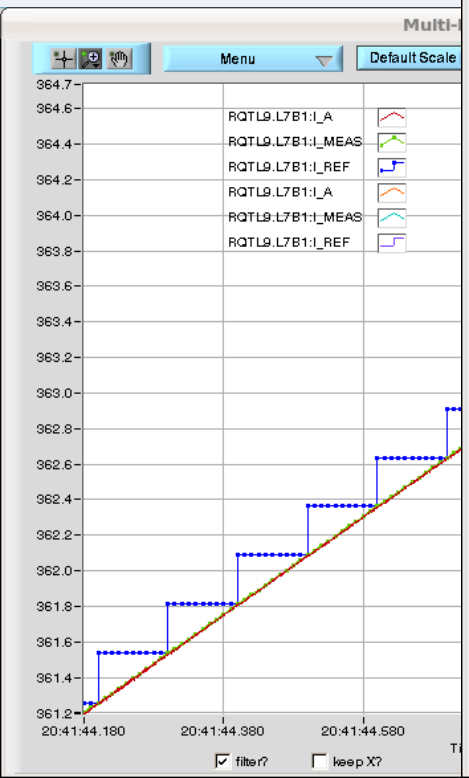
29/07/2008: 19h27 : Trip at 400 A during PNO.a3

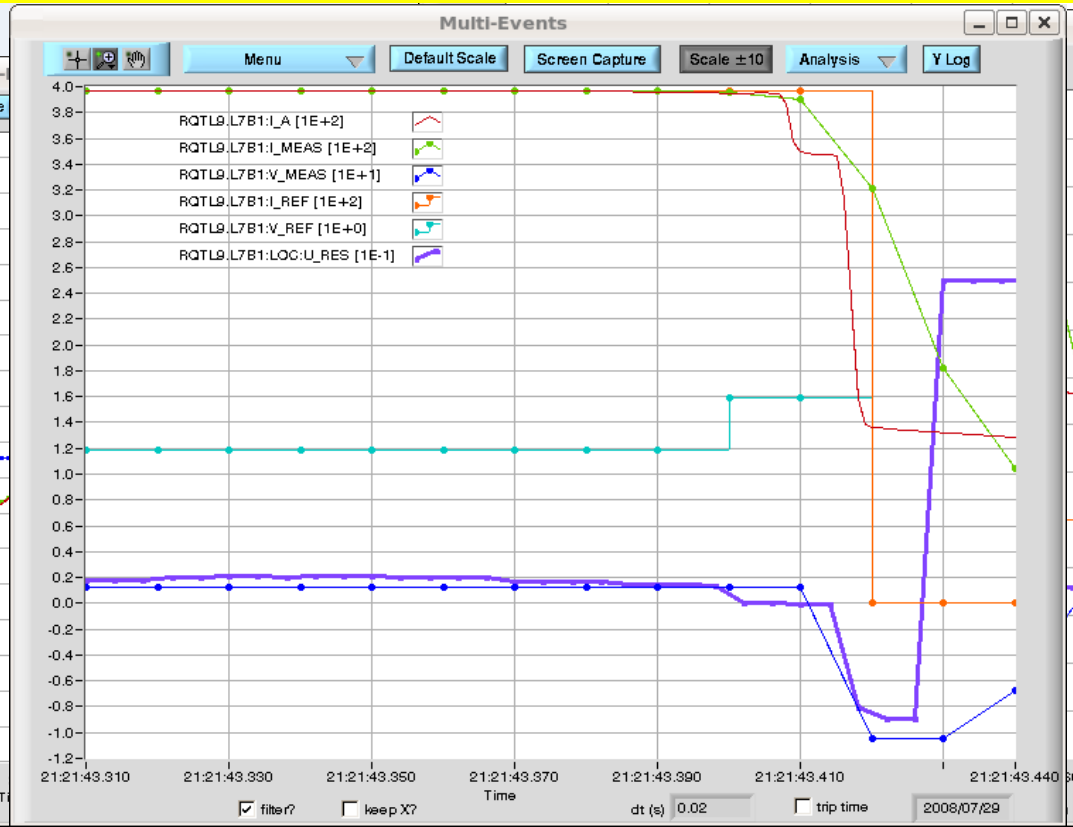
29/07/2008: 20h41 : Trip (quench) at 364 A during PNO.a3

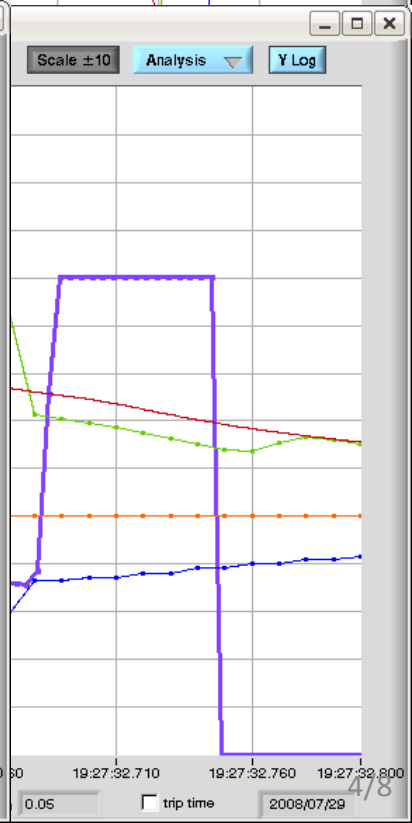
29/07/2008: 21h21 : Trip (quench) at 397 A during PNO.a3

MPP logbook: “Quenched” twice at PNO.a3 after PNO.d3 … to be closely watched









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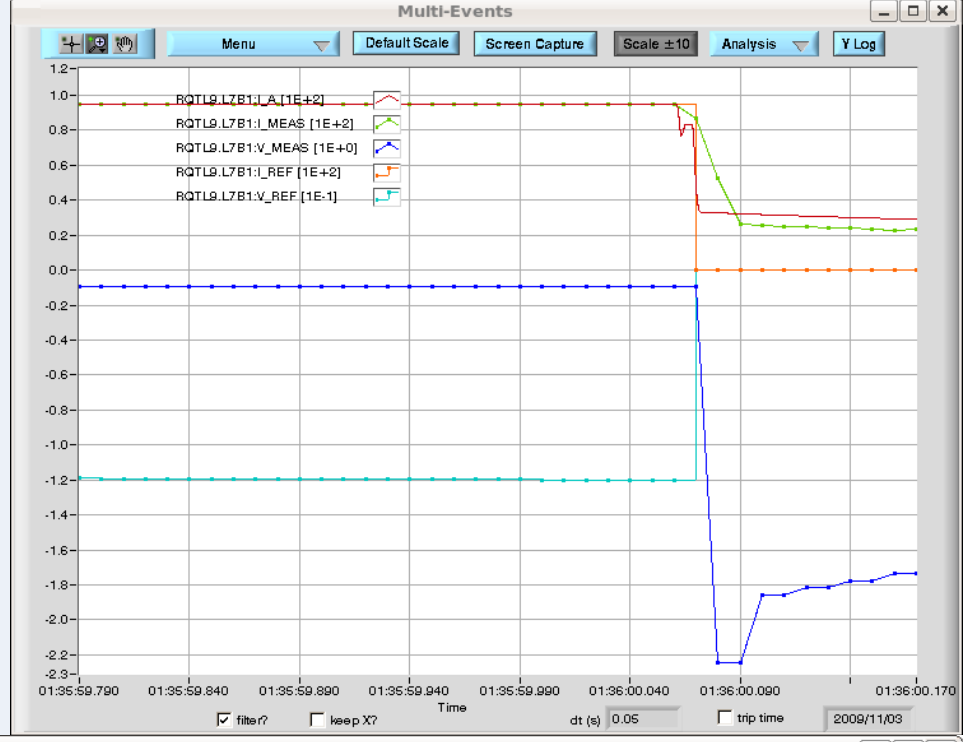
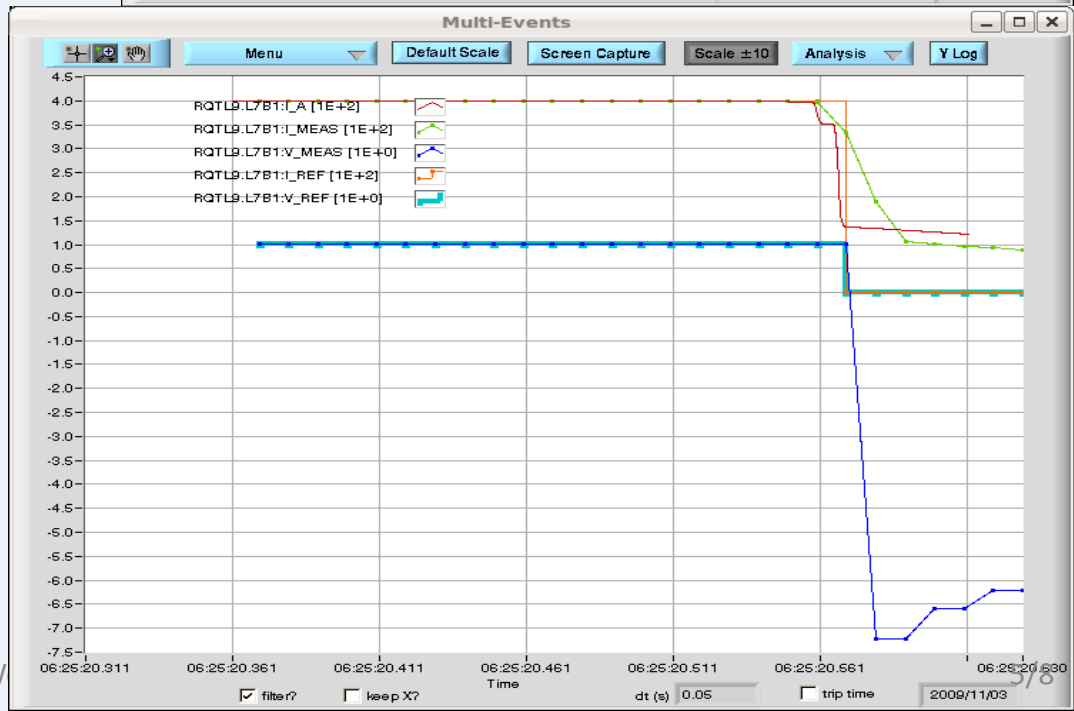
2009/10 commissioning campaign:

03/11/2009: 01h47 : Trip at 95 A during PCS at rampdown

03/11/2009: 06h25 : Trip at 400 A during PNO.b1 at flattop [Some files missing]

MPP logbook: Slight issues mentioned about CL regulation





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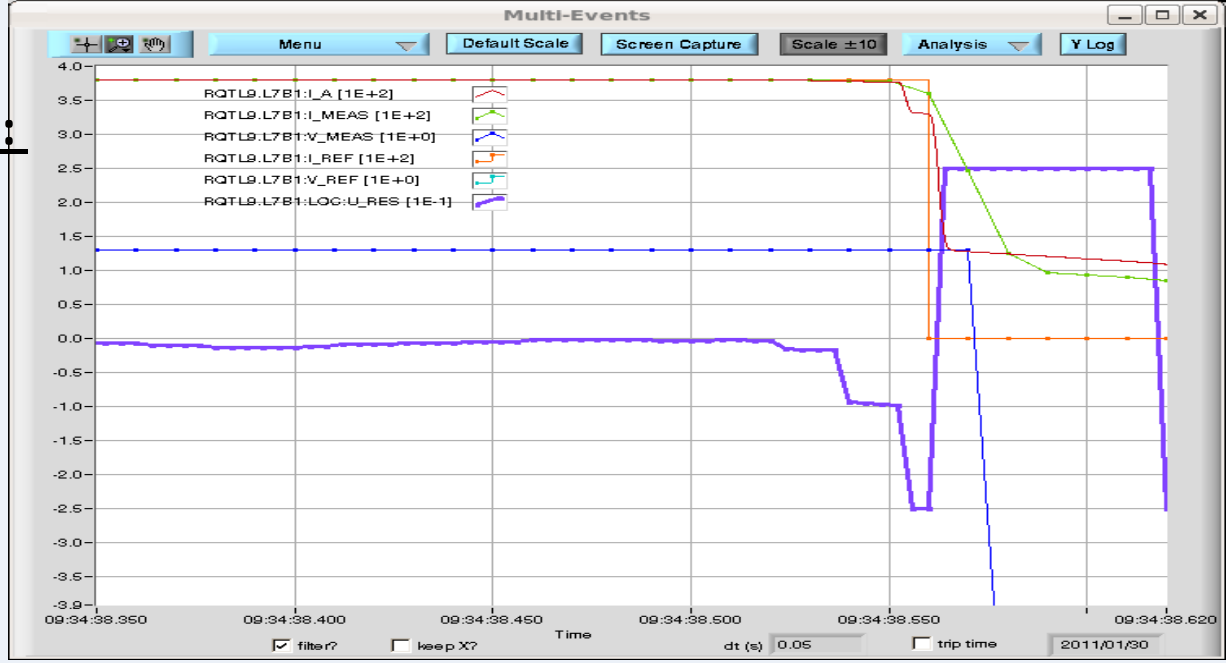
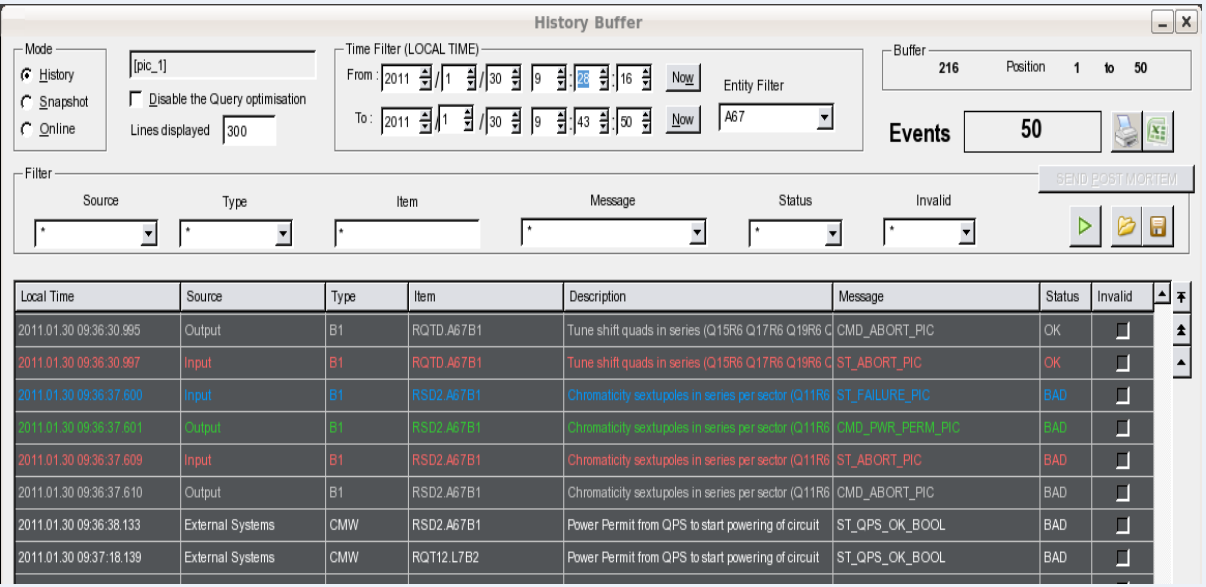
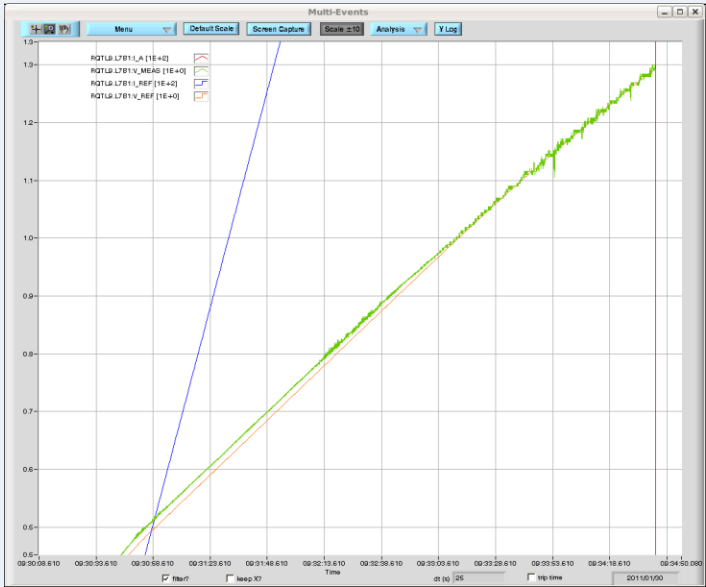
2011 commissioning campaign:

30/01/2011: 09h34 : Trip/Quench at 380 A during PNO.d3 (only signed by PO) during ramp-up





Vmeas becomes noisy 2 minutes before trip



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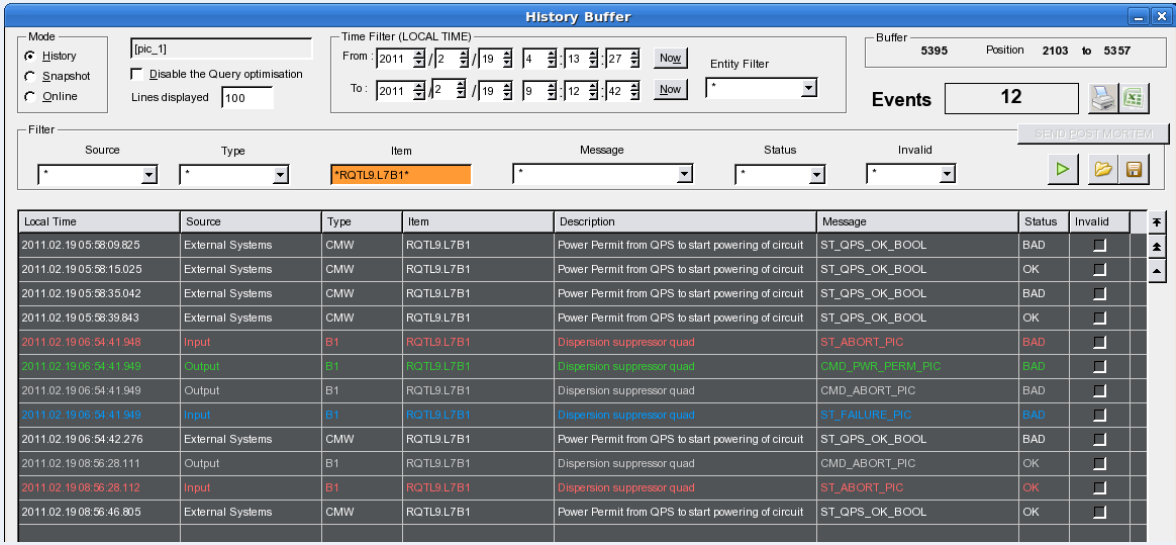
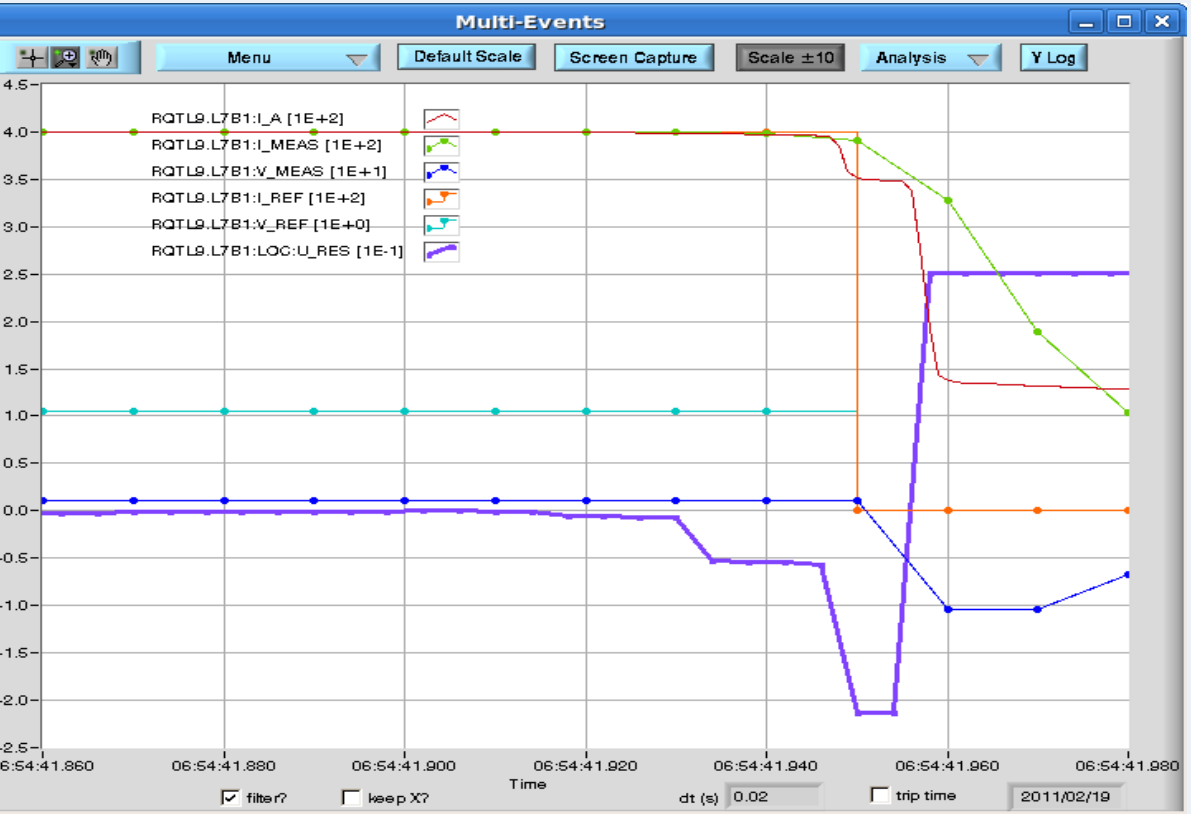
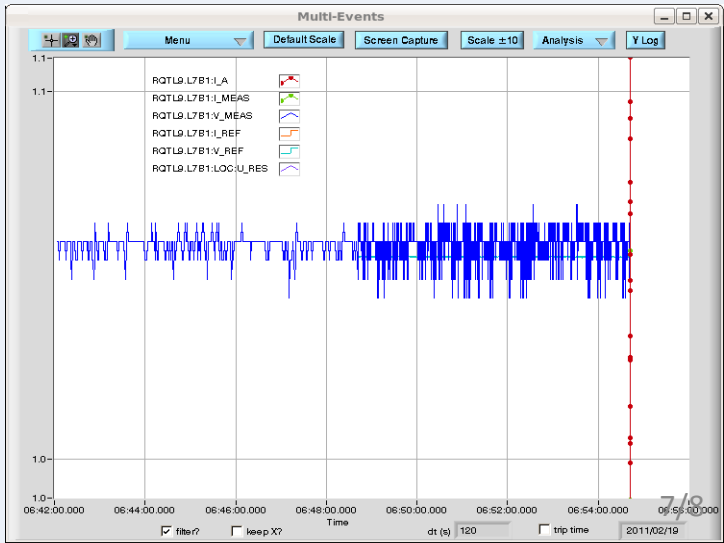
19/02/2011: 06h54 : Quench at 400 A during flat top

2011 quench after commissioning





Vmeas becomes noisy 5 minutes before trip



CONCLUSIONS

+ No burning issue on this circuit

+ Seems to be a delicate circuit

+ To be watched closely so “flagged” but how ?

+ If further issues, reduce current to the operation required value + margin