



LHC Machine check out

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Be/op

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Powering Groups of Circuits

	GPM OK	RCD+RCO	PGC1.1	PGC1.2	PGC1.3	PGC1.4	PGC1.5	PGC1.6	COMPLETED
ARC12	Yes		17/02 - 19:25	20/02 - 20:41	13/03 - 00:45	13/03 - 17:12			
LR1	Yes						24/02 - 13:09	04/03 - 23:01	
ML2	Yes						03/03 - 17:57	04/03 - 23:58	
IT.R1	Yes						23/03 - 23:42	16/03 - 21:06	
IT.L2	Yes						17/03 - 00:01	17/03 - 06:11	
ARC23	Yes		10/03 - 22:19	13/03 - 18:00	14/03 - 13:19	16/03 - 22:30			
MR2	Yes						03/03 - 18:08	10/03 - 16:39	
IT.R2	Yes						23/03 - 21:55	16/03 - 21:43	
ARC34									
ML4	Yes						22/03 - 12:03	22/03 - 23:52	
ARC45			29/03 - 17:20	29/03 - 20:51	30/03 - 19:39	30/03 - 21:29			
MR4	Yes						15/03 - 01:44	15/03 - 19:37	
LL5	Yes						14/03 - 00:02	15/03 - 18:54	
IT.L5	Yes						23/03 - 23:43	17/03 - 00:28	
ARC56	Yes		14/03 - 04:19	14/03 - 14:46	16/03 - 01:33	17/03 - 01:32			
LR5	Yes						14/03 - 00:17	15/03 - 19:14	
ML6	Yes						03/03 - 18:38	06/03 - 00:16	
IT.R5	Yes						23/03 - 23:45	24/03 - 03:09	
ARC67	Yes		14/02 - 08:40	11/03 - 00:31	12/03 - 14:17	13/03 - 18:30			
MR6	Yes						20/02 - 21:01	05/03 - 02:33	
ARC78	Yes		21/03 - 14:10	21/03 - 17:33	22/03 - 19:43	23/03 - 20:00			
ML8	Yes						03/03 - 18:15	11/03 - 02:38	
IT.L8	Yes						23/03 - 19:18	24/03 - 00:27	
ARC81	Yes		13/03 - 17:52	14/03 - 13:10	17/03 - 03:26	17/03 - 05:40			
MR8	Yes						03/03 - 18:28	11/03 - 01:58	
LL1	Yes						13/03 - 21:14	15/03 - 19:20	
IT.R8	Yes						14/03 - 12:45	16/03 - 20:59	
IT.L1	Yes						27/03 - 19:56	21/03 - 02:38	

Remaining HWC tests

Accelerator Testing - pro

RBA: no token Send Feedback Campaign **[Active]**: Recommissioning post LS1 18 Systems 442 Tests 429 Successes 97% Successful

Test Plan Test Plan Graph Execution basket Analysis basket Signing basket Schedule Plan Statistics Reporting

System name	Active I...	Pie Chart	The tests for the system
RB.A34	EXE, PIC	82% Successful	PNO.b2, PNO.a6, PIC2 GLO..., PGC.1, PGC.2, PGC.3, PGC.4, PIC to Bl...
RB.A45		93% Successful	PGC.3, PGC.4, PIC to Bl...
RQD.A45		96% Successful	PIC to Bl...
RQF.A45		96% Successful	PIC to Bl...

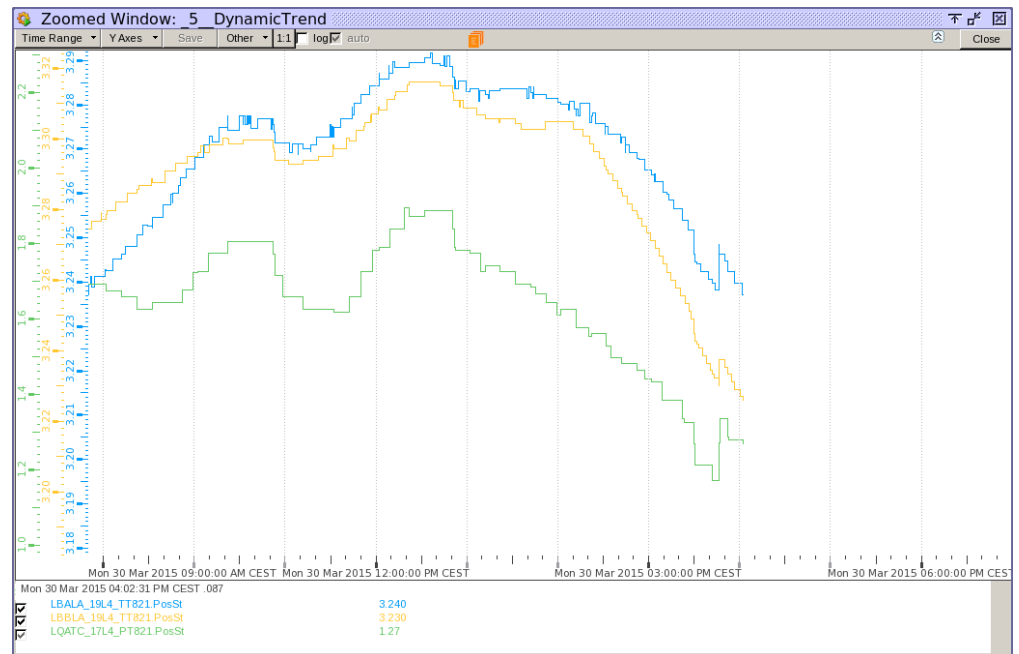
ARC45: PGC.3 & PGC.4 done
=> still to be analysed

RB.A34: PNO.b2 should be signed failed

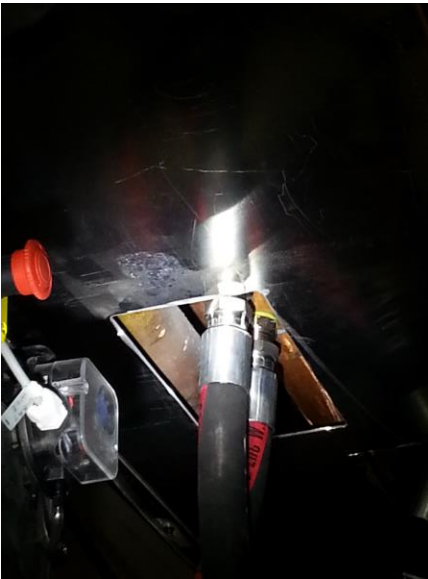
04:24:05 - Binding service 'serverRunStateController' to RMI registry: RegistryImpl_Stub{UnicastRef {liveRef: {endpoint:[172.18.200.32:60230]{remote},objID:[0:0:0, 0]}}

- **Monday**

- Attempt to burn away short went well
- First results show that the fault has disappeared.
- To be confirmed by the ELQA measurement today
- Cryogenic circuit back to 1.9 K
 - S34 at 3.2 K



- RQF S12
- **Sunday morning** we did a visual inspection
- Monday intervention Earth Fault disappeared

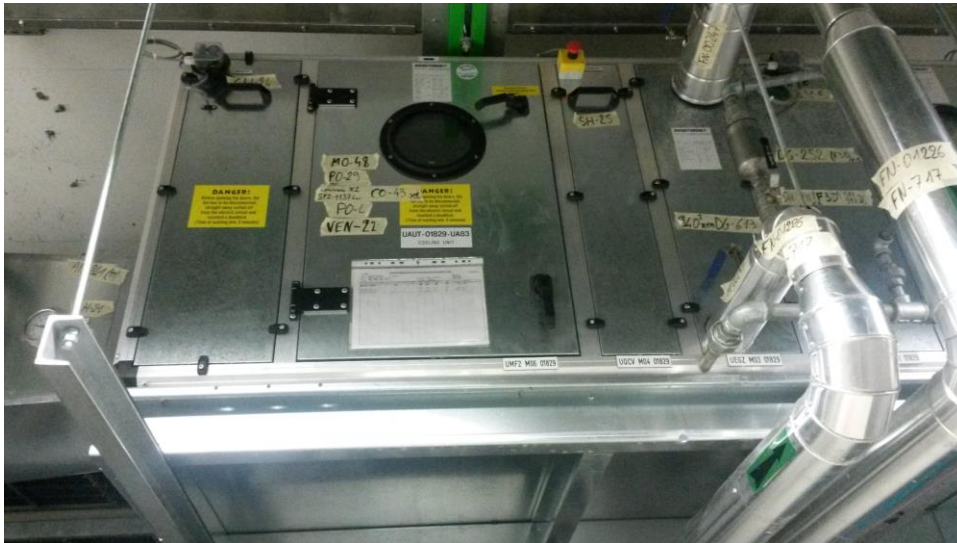


- **RB.A78 tripped** while going to standby.
 - signal `I_EARTH_PCNT = -109%` disappeared after.
- **Visual Inspection.**
- **ELQA measurement yesterday afternoon.**
- **Found a Earth Fault on the warm part.**



Do we need a verification campaign EN/EL?

- Visual inspection
 - Found an air handling unit near the QF/QD.
 - EN/CV informed >> Intervention
 - EPC had to switch off all the DCCT Electronics related to RB.A78, RQD.A78, RQF.A78.





- **ALICE solenoid** RAMP-UP/DOWN
- Repeated PLI2.b3 for **RQF.A12** and ramp to I_PNO
- **RQF/D.A12** for ~1h @ flat top

- 18:30: **RQ6.R4B1 tripped** (NO PC PERMIT, VS STATE)
=> EPC needs to check it
- **PGC1.3 & PGC1.4** on ARC45 – OK (to be analysed by MP3)
- **RQD.A45 tripped while going to STANDBY**
fault: **VS_RUN_TO**, OK after reset
- **RQD/F.A78: I_MEAS fault** => EPC needs to check it

- **RAMP ,SQUEEZE 1 step + SQUEEZE in 11 steps- RAMPDOWN of:**
S12, S23, S45, S56, S67, S78 (w/o mains) and S81
- **RQ6.R7B2, RQT13.R7B1/2 tripped** at 695 s in the SQUEEZE
- **Collimators ramping up & down continuously all night**

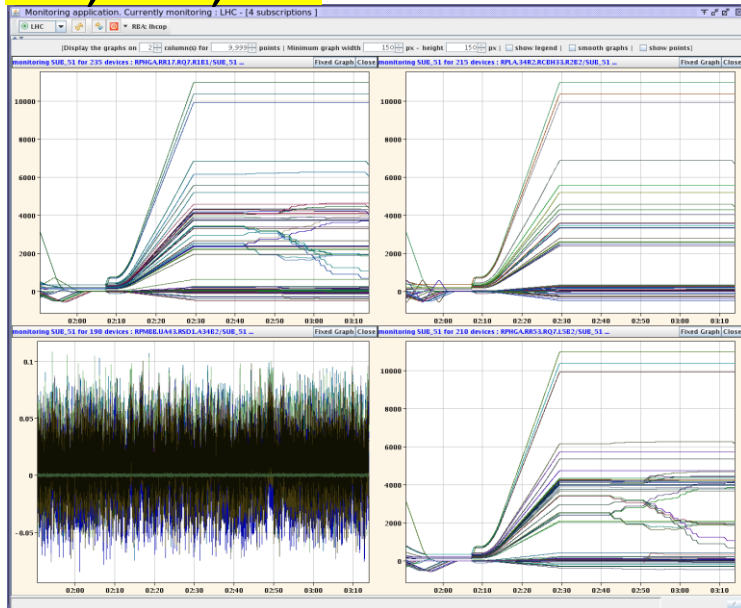
COLLIMATOR RAMP&SQUEEZE TEST 6.5TEV - BS

- MAKE LHC USER RESIDENT
- B1: LOAD TCDQ ENERGY THRESHOLD
- B2: LOAD TCDQ ENERGY THRESHOLD
- LOAD COLL ENERGY THRESHOLDS
- LOAD COLL ENERGY THRESHOLDS TL
- LOAD COLL BETASTAR ACTIVE IP THRESHOLDS
- LOAD COLL BETASTAR ACTIVE IP THRESHOLDS TL
- LOAD COLL BETASTAR THRESHOLDS
- LOAD COLL BETASTAR THRESHOLDS TL
- JUMP HERE
- MAKE LHC.USER.PARKING RESIDENT
- LOAD COLL POSITION THRESHOLDS = PARKING
- LOAD COLL POSITION THRESHOLDS TL= PARKING
- B1: LOAD TCDQ POSITION THRESHOLDS = PARKING
- B2: LOAD TCDQ POSITION THRESHOLDS = PARKING
- B1: RESET TCDQ COLL INTERLOCKS
- B2: RESET TCDQ COLL INTERLOCKS
- RESET COLL INTERLOCKS
- RESET COLL INTERLOCKS TL
- RESET COLL ERRORS AND WARNINGS
- RESET COLL ERRORS AND WARNINGS TL
- LOAD COLL PARKING SETTINGS
- LOAD COLL PARKING SETTINGS TL
- B1: LOAD TCDQ POSITION = PARKING
- B2: LOAD TCDQ POSITION = PARKING
- WAIT FOR TCDQ TO BE ARMED
- B1: CHECK TCDQ ARMED

Buttons: Run, Suspend, Step, Skip, Stop

STATUS: RUNNING, PLEASE WAIT...(1 sec to sleep)

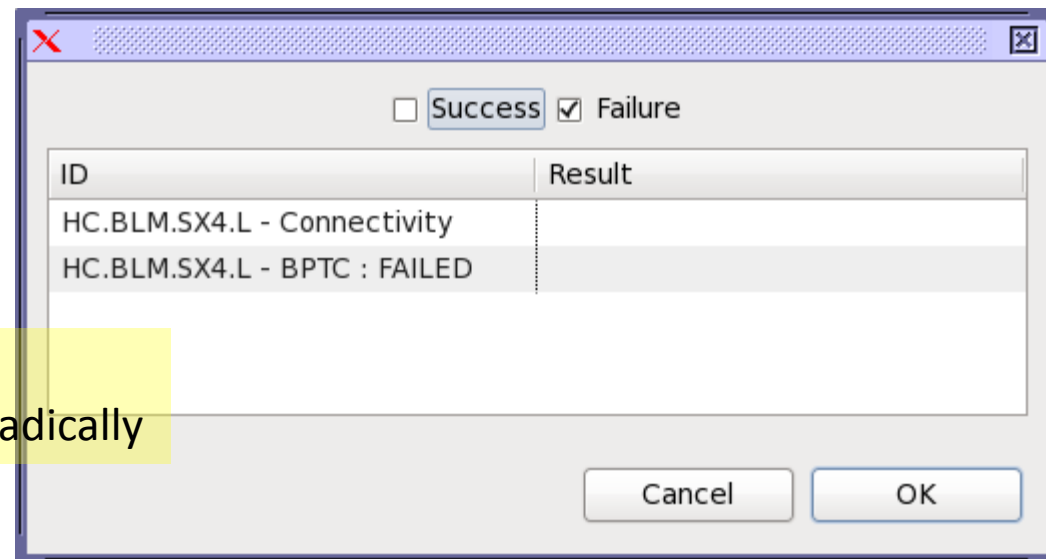
S12, S23, S45



S56, S67, S78, S81



- Nominal sequence :
 - Some Machine Critical SETTINGS checks still failing for LBDS.
 - ABT informed.
 - HW/database mismatch for ABORTGAP CLEAN parameters
 - BPM calibration failed : host not reachable >> BI informed
 - BLM MCS checks



BLM sanity check still failing:
consistent problem in P4 & others sporadically



Access requests

WHO	WHERE	WHEN	WHAT	Duration
EN/MME	Point 4		Xray Material	2 hrs.
ELQA	Point 4		Measurement	4 hrs.
EN/EL	Point 8		Earth Fault repair	2 hrs.
ELQA /EPC	Point 8		RB 78	4 hrs.
ABT/MKI	Point 8		MKI8A voltage connector	3 hrs.
Alice				2* 4 hrs.

- **Access 8:00 – 12:00**
- **RB.A34 ELQA measurement**
- EPC connection RB 78
- EN/EL repair RB 78
- Continue PGC's S45

- Full Operational machine cycle tests
- Nominal sequence tests
- Precycle, ramp and squeeze in all possible sectors
- RF tests
- Collimator tests
- LHC & Experiments closed after access

<https://indico.cern.ch/category/6386/>



Tentative plan

ACTIVITY	TIME	PLAN
C19L4 IFS reconfiguration	1 hour	Tuesday
MIC test on C19L4 and A19L4	1 hour	Tuesday
ELQA test at 2.1 kV	1 hour	Tuesday
Transient Voltage Suppressors removal	1 hour	Tuesday
Reconnection of the QPS (iQPS + nQPS)	1 hour	Tuesday
ELQA test at 1.5 kV	1 hour	Tuesday
DC cable connection	2 hours	Tuesday
Switch on heater power supplies of all magnets	2 hours	Wednesday
Heater firing (on MBA line)	3 hours	Wednesday
PC unlock	1 hour	Wednesday
PCC	45 min	Wednesday
PIC2	2 hours	Wednesday
PLI2.b2 (2 kA)	30 min	Wednesday
Heater induced quench in C19L4 @ 3.5 kA	3 hours	Wednesday
PLIM.b2 (5 kA)	1 hour	Wednesday
PLI3.d2 (9 kA)	1 hour	Wednesday
PNO.b2 (I_PNO+I_DELTA)	2 hours (depending on training)	Wednesday N
PNO.a6	3 hours	Wednesday N
PGC.1	3 hours	Wednesday N
PGC.2	1 hours	Thursday
PGC.3	1 hour	Thursday
PGC.4	1 hour	Thursday
RB+RQD+RQF	3 hours	Thursday
TOTAL		~3 days

- **Friday** Sector 34 circuits operational
 - (If no problems encountered)
 - Beam loop closing.
 - BIS machine protection tests.
 - LBDS –BIS machine protection tests
 - BIS Interlock valves
 - All Machine cycling all sectors together
 - First beam not before **Easter Sunday-Monday**
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- Checking Experts availability during Easter week end!!