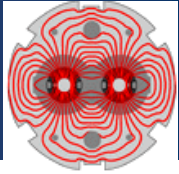
Latest news concerning planning of quench tests

Mariusz Sapinski BI/BL

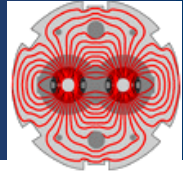
Quench Test Strategy WG, 2013/01/18

Preparation planning



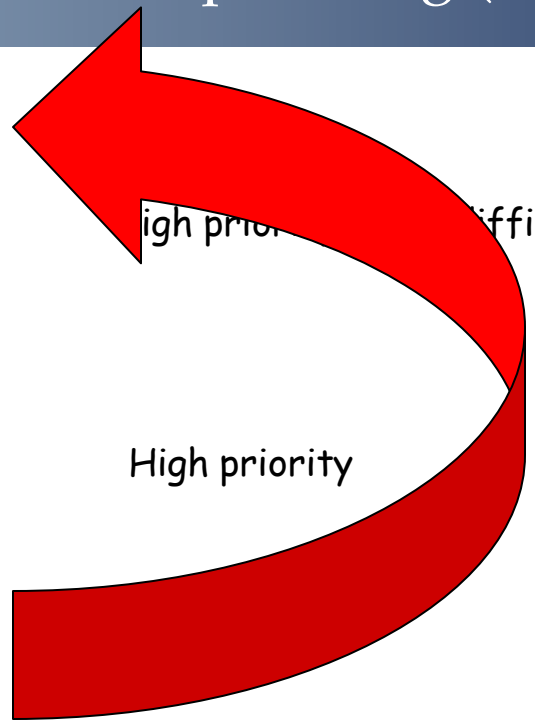
date	action
Friday, January 18th	QTSWG meeting, checking status of preparation
Tuesday, January 22nd	Deadline for MPP EDMS documents (sooner is better).
Friday, January 25th	MPP, presentations : •Vera and Anton concerning beam screen temperatures •Mariusz – quench test planning and … 6 hour MD time to set ADT and test the fast loss procedure at injection with collimators. (exact date depends on ion owen refill)
Monday, January 28th	Collimation WG: presentation about collimators settings for quench test (Belen)
Wednesday, January 30th	LMC: presentation about final tests schedule (Mariusz)

Quench tests planning (I)



ADT fast loss	High priority, most difficult
Collimation protons	High priority
Collimation ions	
Steady state with bump	
Q6 injection	Can be done during other magnet recovery

Quench tests planning (II)



ADT fast loss

Collimation protons

Collimation ions

Steady state with bump

Q6 injection

igh prio ifficult

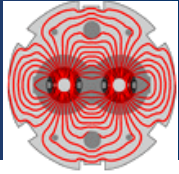
High priority

End of lead in the oven

Not easy bricolage in MPS

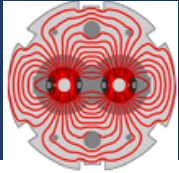
Can be done during other magnet recovery

Quench tests planning (III)



Time	MD	beam	comments	accumulated time
06:00	*Ramp down if needed*		Prepare BLM thresholds (easy), ADT settings (probably tricky), QPS acquisition	
08:00	**ADT fast loss QT**, ramp 1	10 x 1e9 (?) @ 4 TeV	Quench expected (12L6)	
10:00	*ramp down, quench recovery, precycle*			2
15:00	**ADT fast loss QT**, ramp 2	10 x 1e9 (?) @ 4 TeV (contingency?)	Quench expected (12L6)	7
17:00	*Ramp down, quench recovery, precycle*		Preparation of BLM thresholds (complex), ADT settings	9
22:00	**Proton collimation QT**, ramp 1	9e12 @ 4 TeV	assumed no quench	14
00:00	*Ramp down, precycle*			16
02:00	**Proton collimation QT**, ramp 2	>9e12 @ 4 TeV	Quench expected (L7)	18
04:00	*Ramp down, quench recovery, precycle*			20
09:00	**Proton collimation QT**, ramp 3	>9e12 @ 4 TeV (contingency?)	Quench expected (IR7) (Maybe the other beam?)	25

Quench tests planning (IV)



Time	MD	beam	comments	accumulated Time
11:00	*Ramp down, quench recovery, precycle*		Prepare BLM thresholds (very complex and critical) , ADT settings,	27
16:00	**Ion collimation QT**, ramp 1	5e11 (charges, ie. 3x24 bunches) @ 4 ZTeV	Quench expected (IR7). **Additional ramp if enough time**	32
18:00	*ramp down, quench recovery, precycle*			34
23:00	**Orbital bump steady state QT**, ramp 1	10 x 1e11 @ 4 TeV	Quench expected (12L6). **Additional ramp if enough time.**	**39**
01:00	*Ramp down, quench recovery, precycle*		*Preparation of BLM thresholds (easy) and QPS fast acquisition*	*41*
03:00	**Q6 injection QT**	Fat pilot at injection B2, Q6 magnet at higher currents (5 TeV +)	Can start independently of quench recovery in 12L6. Quench expected (6L8).	43
05:00	*END*			**45**

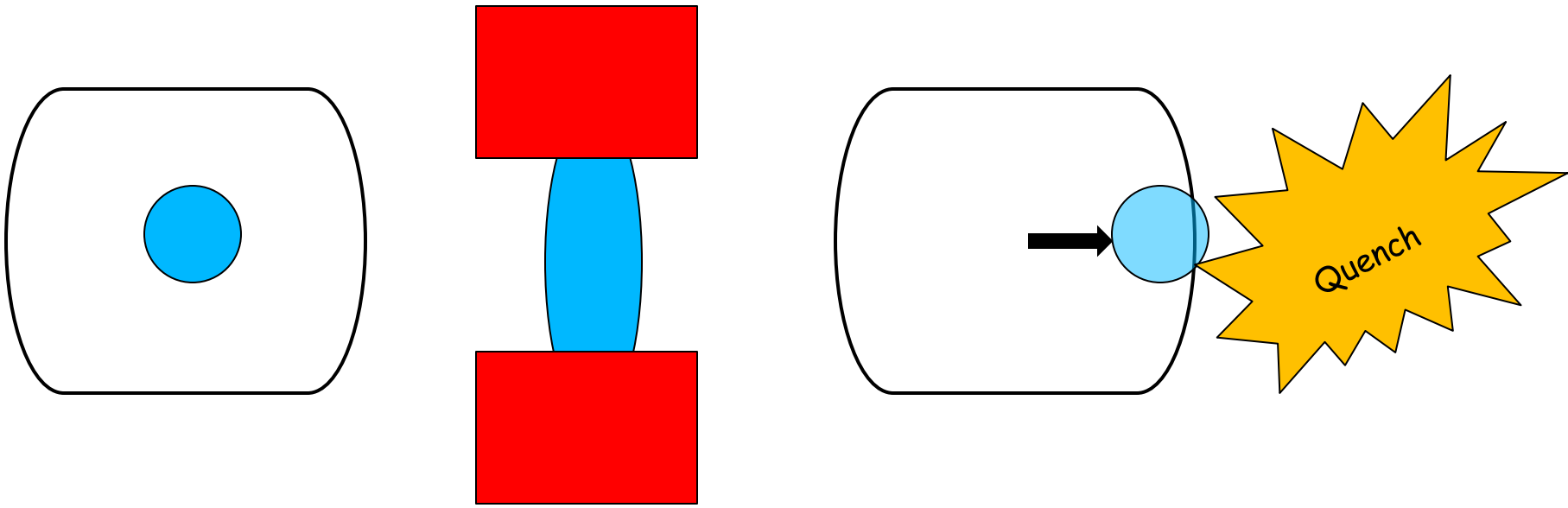
3 spare hours: possibility to make another ramp for **ion collimation QT** or **Orbital bump steady state QT**.

ADT fast losses QT - idea

1. Inject and ramp

2. Blow-up vertically and scrape

3. Excite horizontally and quench



(*) Not in scale

Open points concerning ADT fast losses QT