# LS1 PS&TT2 H/W test period (31/03/14-21/05/14)

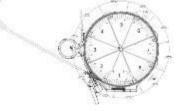
Simon Mataguez EN/MEF-OSS

More info about the PS machine? www.cern.ch/ps





#### **Outline**

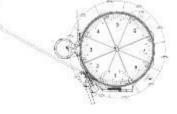


- 1. Injectors Start-up Schedule
- 2. PS & TT2 H/W test period (31/03/14-21/05/14)
- 3. Organization H/W test period
- 4. Access during H/W test period
- 5. BE-CO Specification of Dry Runs
- 6. Auxiliary Magnets Power Supply Start-up
- 7. Magnet tests
- 8. Outcome





#### Injectors Start-up Schedule



	Ja	nua	ry		Feb	ruary			M	arch				April				Ma	ay			Ju	ne		
	<b>3</b>	4	<b>5</b>	6 ∞ Al	7 JG	<b>8</b>	9	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	16 M East		18	19 5	20 12	<b>21</b>	<b>22</b>	23	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>
L2					Access						ŀ		re Test	S				Set up	with b	eam	MP				
PSB					Access							. 2	Har	dware te	ests		Patrol	Cold-cl	neck ou	ıt	Set up	with be	am		
L3												Test									Hard	ware	Set u	ıp with	
LEIR						Access						ccess							Hardv	vare		Cold-ch	eck ou	t	
PS					V	entilatio	n comi	missioni	ng		000	Global A	MPS	POPS Ventilati	PO Hard	ware	e tests		Patrol	Colo	d-check	out	Se	t up wi	th bear
TT2							sacoy						o de la composition della comp		Hardy	vare	tests		Patro	Colc	l-check	out			
AD								Access													Har	dware	Patrol	Cold-check	out
SPS											ELI							100						BA1	Patrol
CV in Injectors	•	D						ompress SB / TT LEI		L3	POPS co		S main	magnet	s		•	East are	a			D targe			circuit





## PS & TT2 H/W test period (31/03-21/05)



					oven	nber	C	01 January		21 Feb	ruary	1	L April		01 June		21 Ju	uly		11 Septembe
	Task Name ▼	Duration ▼	Start -	Finish +	25,	/11   1	16/12	06/01	27/01	17/02	10/03	31/03	21/04	12/05	02/06	23/06	14/07	04/08	25/08	15/09
54	PS Start up program 2014 - PS Start up program: Hardware test period, Cold checkout, Beam Commissioning All services available.	43.13 days	Fri 28/03/1	Thu 22/05/14	.4				_		•			_						
55	▶ Access requests during Access commissioning & Hardware tests	49.88 days	Tue 01/04/1	Mon 09/06/1	4					<del>}                                    </del>		-	+	-	-					
69	▶ EN-EL Electrical Services Program	82.13 days	Thu 06/02/1	Thu 22/05/1	4				-		:		:	<del>. </del> ₹NE	LED Edect	ráč SeBeise	seBr Bgog	nam		
77	▶ TE-EPC commissioning	38 days?	Fri 28/03/1	Fri 16/05/1	.4								<del>:</del>	TE-E	C comm	issioning				
89	▶ TE-MPE test interlock	12.5 days?	Fri 28/03/1	Fri 11/04/1	.4							-	E-MPE test	interlo	ķ					
92	GS-ASE Complex new access system commissioning - edms 1346246	39.38 days	Tue 18/02/1	Wed 09/04/1	4					•		G	ASE Com	plex nev	access s	ystem com	mission	ing - edm	s 13462	46
100	▶ BE-CO Commissioning CERN edms 1340573	93.13 days?	Mon 10/02/1	4 Mon 16/06/1	4			10	0/02 🕶			2	<del>:</del>	<del> </del>	-	BE-CO Con	mission	ng CERN	edms 13	40573
118	▶ BE-RF: RF-IS interventions in the PS	67 days?	Fri 28/03/1	Thu 26/06/1	.4							to	:		:	BE-RF	RF-IS in	terventio	ns in the	PS
126	▶ TE-MSC Hardware Test Period. All services available	34 days?	Tue 08/04/1	Thu 22/05/1	4							₹	:	-						
147	▶ BE-OP PS CCC manpower planning	78.13 days	Mon 10/02/1	Thu 22/05/1	4			1	0/02 📰	: :	:	ese	:	:						
157	■ PS Operations	71 days	Fri 04/04/1	Fri 11/07/1	.4							- 3	:	-		<del></del> -	PS Oper	ations		
158	Proton Source Start-up and Testing.	9 days	Fri 04/04/1	Wed 16/04/1	.4						04/0	4 1	Proton So	urce Sta	t-up and	Testing.				
159	Linac2 Pre-Hardware Test Patrol	2 hrs	Thu 17/04/1	Thu 17/04/1	.4							17/0	Linac2 Pr	e-Hardy	ire Test I	Patrol				
160	Linac 2 Hardware Test period + Setting up with Beam	28 days	Thu 17/04/1	Wed 28/05/1	.4							17/0	28/05		Linac 2 H	lardware 1	est perio	d + Setti	ng up wit	h Beam
161	Booster Cold Check-out	15 days	Thu 08/05/1	Wed 28/05/1	4								08/05	28/05	Booster (	Cold Check	-out			
162	Beam To Booster through new Switch yard/Inflector Zone.	0 days	Fri 30/05/1	Fri 30/05/1	4									30/05	Beam To	o Booster t	hrough i	new Swite	h yard/I	nflector Zone
163	Booster setup with beam	15 days	Mon 02/06/1	Fri 20/06/1	4									02/0	20/06	Booster s	etup wit	h beam		
164	PS Operations Cold Check-out	15 days	Fri 30/05/1	Thu 19/06/1	4									30/05	19/06	PS Opera	tions Col	d Check-	out	
165	Beam to PS	0 days	Mon 23/06/1	Mon 23/06/1	.4								l		23/06	Beam to	P\$			
166	PS Setup with Beam	15 days	Mon 23/06/1	Fri 11/07/1	4										23/06	11/07	PS Setup	with Bea	am .	
167	Beam ready for extraction.	1 day	Fri 11/07/1	Fri 11/07/1	4											11/07 +	Beam re	ady for e	xtraction	1.

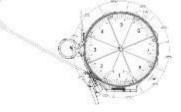
	W14 31/03 → 06/04	W15 W17 07/04 → 19/04	W18 W19 22/04 →08/05	W20 08/05 → 18/05	W21 19/05 →21/05	22/05 <del>→</del> 23/05
from 6.00 to 08.30						No access
from 8.30 to 17.00	New Access	EPC team	MSC tests		MSC tests	Hand-over DSO tests
from 17.00 to 21.00						

- week 14 to 19 all magnets are without covers and PS machine will no longer be electrically "locked-out"
- week 14 & 16 « conditionings HV of SEH23 an SEH31 » X-Ray risks





### Organization H/W test period



**04/02** FOM Coordination Meeting #01 Update on the start-up Schedule and H/W test period https://indico.cern.ch/event/366809/attachments/729188/1000520/02-04-2014.pdf

20/03 LS1 Coordination Meeting #14 (Last one) for the PS tunnel and TT2 and presentation of last H/W test period version EDMS <u>1363569</u>

From 01/04 to 20/05 WEEKLY FOM Coordination meetings, follow-up/actions reporting

From 28/04 @ 18.00 PS has been put in "restricted mode access" All LS1 IMPACT have been stopped and new one for intervention periods LS1 – PS - HWT  $\rightarrow$  93 IMPACT

From 13/04 to 22/05 24 Daily HWT Coordination meetings (6-2-004) at 8:15 – All slides presented available in EDMS 1373196

- Email sent to CPS Operations with daily program and instructions for operation and access (Only access requests approved in this e-mail are authorised)
- Copy of the Email in PS logbook <a href="http://elogbook.cern.ch/eLogbook/eLogbook.jsp?lgbk=401">http://elogbook.cern.ch/eLogbook/eLogbook.jsp?lgbk=401</a> (nota: All updates and modifications done in the PS are reported and documented in the PS Shutdown eLogbook)

### Access during H/W test period

**02/06** released Procedure: Access in LINAC2, PSB, PS and TT2 during the Hardware Commissioning and Tests EDMS 1371388





## **BE-CO Specification of Dry Runs**

• • • • • • • • • • • • • • • • • • •										26.77	-
Task Name	_ Duration _	Start _	Finish 👅		11	April		01 N	Иay		21 N
	· ·	· ·	· ·	31/03	07/04	14/04	21/04	28/04	05/05	12/05	19/05
☐ BE-CO Commissioning CERN edms 1340573	112 days?	Mon 16/12/13	Fri 23/05/14			:	:	: -	<del>:                                    </del>	:	<del></del>
Start of commissioning	1 day	Mon 10/02/14	Mon 10/02/14						:		
Oasis operational	1 day	Mon 21/04/14	Mon 21/04/14				I				
cfc-361-rpsbmps, cfc-269-rpsft16, cfc-263-rpseastarea, cfc-263-rpseastarea	21.13 days	Mon 10/02/14	Fri 07/03/14			:					
All Fes	93.13 days	Mon 16/12/13	Wed 30/04/14					<ul> <li>30,</li> </ul>	/04		
FGC in Simulation mode (MPS, POPS, Sextupoles)	1 day	Mon 24/03/14	Mon 24/03/14			:					
FGC: To test FGC device from CCR	6 days?	Mon 31/03/14	Mon 07/04/14	07/04	FGC: To	o test FGC	device fr	om CCR			
Spare for E	25 days?	Mon 21/04/14	Fri 23/05/14			21/04	23/05				_
FGC: To test all FGCs (6) from CCR	25 days?	Mon 21/04/14	Fri 23/05/14			21/04	23/05	: -	<del>:                                    </del>	:	<b>—</b>
CBMIA: To test 1 CBMIA device per loop per FE from CCR	22 days?	Thu 24/04/14	Fri 23/05/14			24	/04 <b>=23</b> /	05			_
Spare for F	15 days?	Mon 05/05/14	Fri 23/05/14			:		05/05	23/05	:	_
To test many MIL1553 devices from CCR with Oasis, Timing, etc	1 day?	Fri 23/05/14	Fri 23/05/14							2	3/05 1
To test all Power converters and Function Generators from CCR	3 days?	Wed 21/05/14	Fri 23/05/14							21/0	)5 <b>=21</b>
BFA9-21, DFA242-254, SEH23-31, SMH	10 days?	Mon 12/05/14	Fri 23/05/14						12/05	23/05	<b>—</b>
KFA28, KFA45, KFA71-79, KFA4-13-2,TPS15	5 days?	Mon 19/05/14	Fri 23/05/14						:	19/05	<del>23/</del> 0
cfv-353-allbc1/2/3/4, cfv-359-allfbc10a/b/c/d, cfv-353-allrfm,cfv-353-cpaos16,cfv-152-cpaos14, cfi-152-cpaos15	23 days?	Tue 08/04/14	Fri 09/05/14	08/04	CO9/OS					U	bc1/2/3
1-day DRY RUN for CPS BI systems	1 day?	Mon 07/04/14	Mon 07/04/14	07/04	1 -day [	RY RUN f	or CPS BI	1			

Note:

File updated (DD/MM/YY): 27/02/2014

Timing devices (LTIM) connected to equipment will be tested during specific Dry Runs (Ex: Timings for Power converters)

Tests for General Timing devices to be scheduled by BE-OP with BE-CO

	Oas	is sho	uld be	e oper	ationa	al in Cl	PS for	Wk 1	7th.																		
	Jan			Feb				Mar					Apr				May				Jun						
Week	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26			
Day	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	)	16	23	)		1
							4			8			OPS	M FS	Haro	w.te	sts			Col	d Che	ck-	Bea	am .			
									FGC		٧	Е	E'							ľ		Г					
PS													MIL	1553	ĺ	F	F'	F"	1	П							
"														13	ľ			К	L	П							
															Т					Ш							
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EDMS 1340573 Courtesy Marine Gourber-Pace & Claude Dehavay

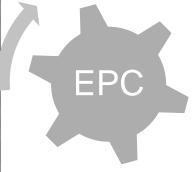




#### Auxiliary Magnets Power Supply Start-up

	= )	P. I	-	
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3	,	*		
T.	1	1	1	1
	1		المحتلف	2
		0.1	700	

			5 : .:		550	Responsible	Responsible	Technical	Power converter
	Logical Name	Model	Designation	Bldg	FEC	1	2	Ref	tests 2014
#REF!	PR.WDNI	PFW1	CONVERTER: PFW1 [±1200V,	355	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WDNP	PFW1	CONVERTER: PFW1 [±1200V,	355	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WDW	PFW1	CONVERTER: PFW1 [±1200V,	<u>355</u>	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WFNI	PFW1	CONVERTER: PFW1 [±1200V,	355	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WFNP	PFW1	CONVERTER: PFW1 [±1200V,	355	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WFO	<u>W1K2</u>	W1K2 [±1000A, ±1400V]	<u>355</u>	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WFW	PFW1	CONVERTER: PFW1 [±1200V,	<u>355</u>	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.WLB8L	PFW2	CONVERTER: PFW2 [±600V,	355	cfc-355-rpspfw	O. Michels	J.P. Burnet	O. Michels	week 15
#REF!	PR.QDN 06	QN-AMP	PC : CBE Redresseur [±10A, ±35V]	<u>355</u>	cfc-355-rpsring	S.Pittet	B. Favre	S.Pittet	week 20
#REF!	PR.RQSK	P RED 80	PC: P.RED 80 [±30/45V, 80A]	<u>355</u>	cfc-355-rpsring	S.Pittet	B. Favre	S.Pittet	week 20
#REF!	PR.DHZ 15 OC	AuxPS 3	CONVERTER: AuxPS 3 [±450A,	355	cfc-355-rpspfw	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.DHZ 60 OC	AuxPS 1	CONVERTER: AuxPS 1 [±450A,	355	cfc-355-rpspfw	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.ODE	AuxPS 1	CONVERTER: AuxPS 1 [±450A,	<u>355</u>	cfc-355-rpspfw	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PE.SMH 57	RPHFB	PC:[10kA 8V 1Q] FWD:8kA	<u>356</u>	cfc-365-rpseject	V. Barbet	L. Charnay	D. Nisbet	week 19
#REF!	PE.SMH 61	RPHHA	PC:[4kA 16V 1Q] FWD:6kA	<u>356</u>	cfc-365-rpseject	V. Barbet	L. Charnay	D. Nisbet	week 19
#REF!	RPSFT.358.PR.MPS	POWER	PC:[6kA 10kV 2Q] Use:PS MPS	<u>358</u>	cfc-358-rpsa	Y.Gaillard	X. Genillon	J.P. Burnet	week 16
#REF!	PE.SMH 16	SEPTUM-16	SEPTUM-16 [±30000A, ±4000V]	359	cfc-359-rsepta	J.M. Cravero	D. Aguglia	J.M. Cravero	week 16 +17
#REF!	PI.SMH 26	ALG-3	Septum 26	359	cfc-359-rsepta	J.M. Cravero	D. Aguglia	J.M. Cravero	week 16 +17
#REF!	PI.SMH 42	ALG-1	ALG-1 [±40000A, ±3000V]	361	cfc-269-rpsft16	J.M. Cravero	D. Aguglia	J.M. Cravero	week 16 +17
#REF!	PE.BSW 23	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PE.BSW 31	GH-1kA	PS10 [500A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.BSW16-12	GH-3kA	PS12 [3000A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.BSW16-14	GH-3kA	PS12 [3000A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.BSW16-18	GH-1kA	PS10 [500A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.BSW16-20	GH-1kA	PS10 [500A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.BSW16-22	GH-3kA	PS12 [3000A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.QKE 16	GH-3kA	PS12 [3000A, 2000V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PI.BSM 40	PS11	PS11 [6000A, 1500V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PI.BSM 42	PS11	PS11 [6000A, 1500V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PI.BSM 43	PS11	PS11 [6000A, 1500V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PI.BSM 44	PS11	PS11 [6000A, 1500V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PI.BSM SPARE	PS11	PS11 [6000A, 1500V]	365	cfc-365-rpseject	D. Aguglia	C. Machado	D. Aguglia	week 15
#REF!	PE.QKE16CT25	P2KV	PC: P2KV2KA [±2000A, ±2000V]	365	cfc-365-rpseject	C. Machado	Sven Putz	D. Aguglia	week 15
#REF!	PE.QKE16CT73	P2KV	PC: P2KV2KA [±2000A, ±2000V]	365	cfc-365-rpseject	C. Machado	Sven Putz	D. Aguglia	week 15
#REF!	PI.BSW26	MINIDISCAP	MINIDISCAP [±20A, ±700V]	365	cfc-365-rpseject	N. David	Stéphane	J.M. Cravero	week 17
#REF!	PR.QTRJ-DB-A	PL-SW-6000	PL-SW-6000	365	cfc-365-rpseject	N. David	J. Parra-Lopez	N. David	week 17
#REF!	PR.QTRJ-DB-B	PL-SW-6000	PL-SW-6000	365	cfc-365-rpseject	N. David	J. Parra-Lopez	N. David	week 17
#REF!	PR.QTRJ-TR-A	S250-PLS	S250-PLS [250A, 350V]	365	cfc-365-rpseject	N. David	J. Parra-Lopez	N. David	week 17
#REF!	PR.QTRJ-TR-B	S250-PLS	S250-PLS [250A, 350V]	365	cfc-365-rpseject	N. David	J. Parra-Lopez	N. David	week 17
#REF!	PE.BSW 57	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.OMT 39	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.OMT 55	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.QSE	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	PR.XMT 39	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	J. Baehler	S. Reignier	week 16
#REF!	PR.XMT 55	AuxPS 2	AuxPS 2 [±900A, ±450V]	365	cfc-365-rpseject	S. Reignier	J. Baehler	S. Reignier	week 16
	PR.XSE	AuxPS 1	AuxPS 1 [±450A, ±450V]	365	cfc-365-rpseject	S. Reignier	L. De Oliveira	S. Reignier	week 16
#REF!	RPOPS.367.PR.MPS	POPS	PC:[6kA 10kV 4Q] Use:POPS	367	cfc-367-rpops	F. Boattini		F. Boattini	week 15



Courtesy Yves Gaillard Not complete list

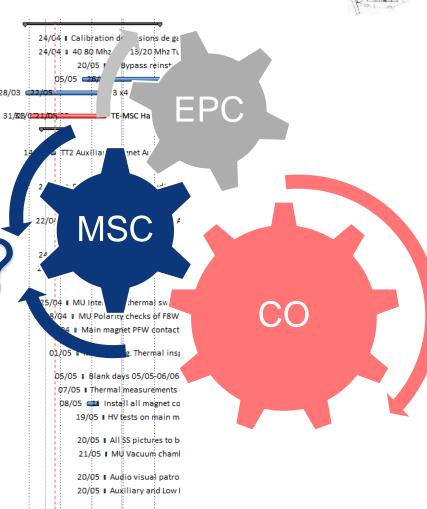




#### Magnet tests

	1
	25

☐ BE-RF: RF-IS interventions in the PS	67 days?	Fri 28/03/14	Thu 26/06/1
Calibration de tensions de gap sur le 10 Mhz	1 day?	Thu 24/04/14	Thu 24/04/1
40 80 Mhz and 13/20 Mhz Tuning	2 days	Thu 24/04/14	Fri 25/04/1
RF Bypass reinstall and measurements	1 day?	Tue 20/05/14	Tue 20/05/1
3 x4Hours access Start up	39 days?	Mon 05/05/14	Thu 26/06/1
3 x4Hours/ week tune of longitudinal damper system in the PS. SSO2. (V+C+E.)	43 days?	Fri 28/03/14	Thu 22/05/1
☐ TE-MSC Hardware Test Period. All services available	39.13 days	Mon 31/03/14	Wed 21/05/1
HV tests on main magnets prior to POPS/MPS starting. Without bus bar protection. Need to find agreement with EPC/GS-ASE	10 days?	Tue 08/04/14	Tue 22/04/1
TT2 Auxiliary Magnet Audio Visual Patrol. Power supplies has to be available. Timing available, SuperCycle tests loaded or pulsed in local	4 days	Mon 14/04/14	Thu 17/04/1
PS Auxiliary Magnet Audio Visual Patrol. Power supplies has to be available. Timing available. SuperCycle tests loaded or pulsed in local	2 days	Thu 24/04/14	Fri 25/04/1
ITH & F61 Auxiliary Magnet Audio Visual Patrol. Power supplies has to be available. Timing available. SuperCycle tests loaded or pulsed in local => Special permit needed	4 days	Tue 22/04/14	Fri 25/04/1
LT BHZ 30, 40 polarity test	2 days	Thu 24/04/14	Fri 25/04/1
LTP & LTB Auxiliary Magnet Audio Visual Patrol. Power supplies has to be available. Timing available. SuperCycle tests loaded or pulsed in local	2 days	Wed 23/04/14	Thu 24/04/1
MU Interlocks thermal switches	1 day	Fri 25/04/14	Fri 25/04/1
MU Polarity checks of F8W, Back leg	2 days	Mon 28/04/14	Tue 29/04/1
Main magnet PFW contact resistance measurements after magnet revision	2 days	Wed 30/04/14	Thu 01/05/1
MPS pulsing. Thermal inspection of the refurbished magnets and bus bars. SuperCycle tests loaded - D. Bodart agrees to work 01/05	2 days	Thu 01/05/14	Fri 02/05/1
Blank days 05/05-06/06 - spare	2 days?	Mon 05/05/14	Tue 06/05/1
Thermal measurements of F8W's	1 day	Wed 07/05/14	Wed 07/05/1
Install all magnet covers (MU and Auxiliary magnets) - Key access	7 days	Thu 08/05/14	Fri 16/05/1
HV tests on main magnets upto 4kV after installation of all magnet covers.	4 hrs	Mon 19/05/14	Mon 19/05/1
All SS pictures to be done + movie	0.5 days	Tue 20/05/14	Tue 20/05/1
MU Vacuum chamber ground loop measurements. MPS running. SuperCycle tests loaded	1 day	Wed 21/05/14	Wed 21/05/1
Audio visual patrol	4 hrs	Tue 20/05/14	Tue 20/05/1
Auxiliary and Low Energy magnets polarity tests. (D. Bodart requests 20/05) SuperCycle tests loaded	1 day	Tue 20/05/14	Tue 20/05/1

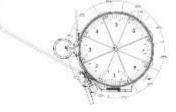


→Power supplies will have to be controlled locally for magnets patrols and polarity checks.





#### Outcome

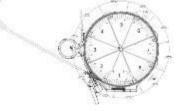


- Coordination meetings, planning, dedicated time slots have to be respected (how to deal with request overestimated?).
- All systems not ready at the same time and not synchronised for test (PS H/W test period came as total surprise)
- Anticipation needed: test definition, equipment groups, quality plan, rigorous check-out (inverted polarities, faulty instruments...).
   Objective: Improve stand-alone tests.
- Responsibility and safety procedure for H/W tests have to be sorted out and anticipated (PS Access during H/W tests EDMS <u>1369459</u>, EDMS <u>1371388</u>), power supplies will no longer be electrically "locked-out" / Habilitation électrique procedure has to be clarified.
- To be noted / Feedback from groups : too many meetings (Leir, Linac2, Booster, PS...)

But PS activities for LS1 have been completed and the machine returned to BE/OP less than 24 hours later than planned after 15 months of work!!



#### References



- [1] PS & TT2 LS1 First long shutdown Post-Mortem Edms <u>EDMS 1394871</u>
- [2] Presentation at the **IRWG** on Thursday 26<sup>th</sup> March 2015, PS Feedback <u>Indico</u> 382770
- [3] PS Planning LS1 2013-2014 EDMS 1252091
- [4] Presentation at the **IRWG** on Thursday 25<sup>th</sup> June 2015, IEFC Feedback Indico 404520





