Measurements for 3.5 TeV Operation

Item	Time h	Beam	Comment	When/what	Status
Check LBDS B1/B2 connected to correct RF clock	1	no	TSU viewer, don't need BETS or BIS	now	Done
Settings and thresholds for all protection devices into LSA	2	no	Already done by coll?	now	Done
Formal check of LBDS vs BIS timing	1	no	Check of existing logged data	now	Done
Ramp to 3.5 TeV for BETS tracking and SMP energy checks	2	no	BIS loop closed	checkout	Done
Test of TCDQ energy interlock	1	no	machine closed, BETS at 450 GeV	checkout	To do
P6 interlock thresholds at 6 mm around beam	1	yes		450 GeV pilot	To do
SIS interlock for TCDQ vs beam position	1	yes	Loose thresholds?	450 GeV pilot	To do
Abort gap monitor giving sensible values	1	yes	PM data working?	450 GeV pilot	To do
Test of dumping with 14/15 MKD	1	yes	3.5 um beam. 1_MKD knob in IR6 to check	450 GeV pilot	To do
Dump at intermediate energies	Hand Full of ramps				
Test ramps to intermediate energies	**20**		**Ramp of full machine with beam**		
Pilot' beam time needed at injection	**3**		**Some parallalism**		

Measurements for Intensity Increase (2 x 4 x 5e10)

Item	Time h	Beam	Comment	When/what	Status
Check LBDS B1/B2 connected to correct RF clock	1	no	TSU viewer, don't need BETS or BIS	now	Done
Settings and thresholds for all protection devices into LSA	2	no	Already done by coll?	now	Done
Formal check of LBDS vs BIS timing	1	no	Check of existing logged data	now	Done
Test of TCDQ energy interlock	1	no	machine closed, BETS at 450 GeV	checkout	To do
Sequence for retracting TDI/TCLI tested, interlocks OK	1	no	machine closed, BETS at 450 GeV, BIS loop armed	checkout	Done
Not possible to arm LBDS in BIS test mode	1	no	machine closed, BETS at 450 GeV, BIS loop armed	checkout	To do
Not possible to arm LBDS with IPOC false	1	no	machine closed, BETS at 450 GeV, BIS loop armed	checkout	To do
BIS loops linked in sequence, and dump of B1/B2 dumps B2/B1	1	no	machine closed, BETS at 450 GeV, BIS loop armed	checkout	To do
P6 interlock thresholds at 4 mm	1	yes		450 GeV pilot	To do
TCDI TI2 rough setup, and injection check	2	yes		450 GeV pilot	To do
SIS interlock for TCDQ vs beam position	1	yes	Loose thresholds?	450 GeV pilot	To do
Abort gap monitor giving sensible values	1	yes	Done? PM data working?	450 GeV pilot	To do
Test of dumping with 14/15 MKD	1	yes	3.5 um beam. 1_MKD knob in IR6 to check?	450 GeV pilot	To do
Injection of 5e10 demonstrated	4	yes	Might take longer?	450 GeV 5e10	To do
Dump of 4x5e10 demonstrated	1	yes	To check dump and XPOC references	450 GeV 4x5e10	To do
Checkout' time needed	**2**		**Parallel activities**		
Pilot' beam time needed	**4-6**		**Some parallalism**		
5e10' beam time needed	**4**	**??**	**Depends on problems seen**		

Other LIBD (related) changes

- The XPOC SIS interlock is now unmaskable
- The XPOC sequencer task now also shows the ‘XPOC latching’ = what is used by SIS
- MKA and AC-dipole now require a physical key to be used. Keys with
  - Jorg Wenninger
  - Brennan Goddard
  - Jan Uythoven
  - Etienne Carlier (for use without beam)