

MPS re-commissioning after YETS Vacuum System

G. Pigny on behalf of TE-VSC

Friday 9 March 2018



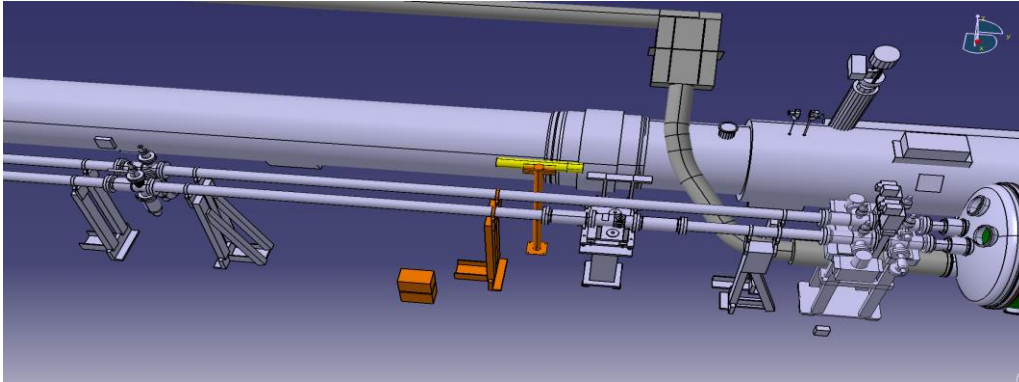
Outline

- Overview of YETS activities in the LSS
(From TE-VSC-BVO, G. Bregliozzi; E. Page)
- Valves, Interlocks and Alarms tests status

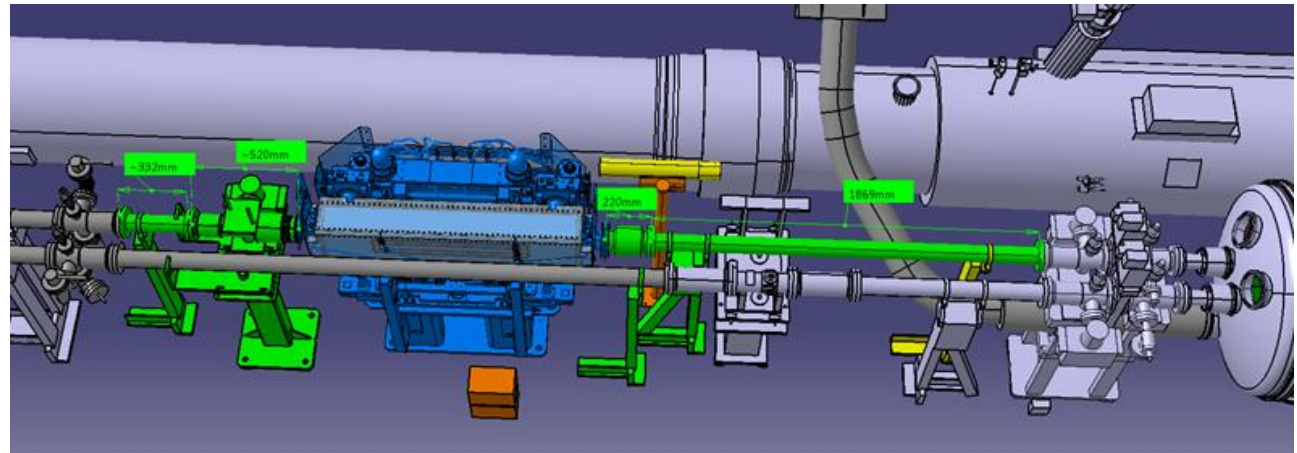
Overview of YETS activities in the LSS

LSS 1

Installation of Two Wire Collimators in IP1 for Long Range Beam-Beam Compensation;
New layout in A5L1 ; existing slot in **B4R1.R** vacuum sector.



A5L1.R layout before modification

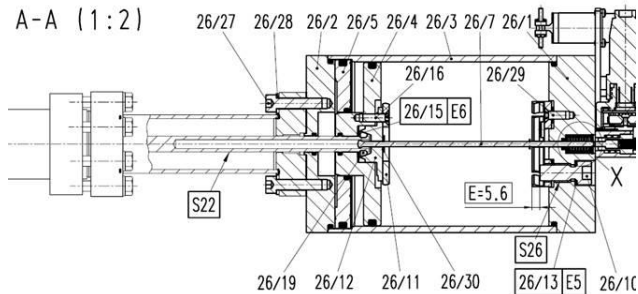
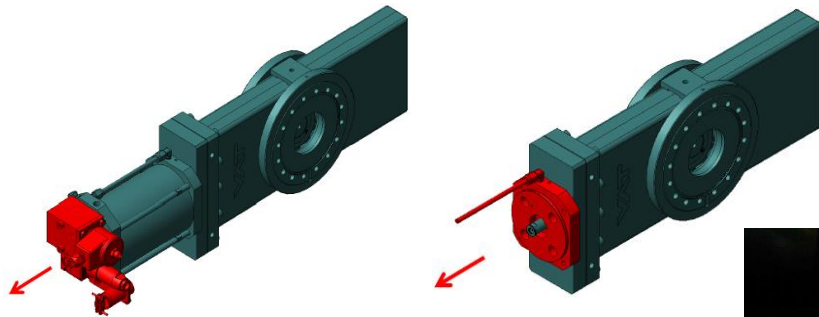


A5L1.R layout after modification

Overview of YETS activities in the LSS

LSS 3

- **Maintenance of 22 sector valves:** consist in replacing wearing parts on the **external side** of the valve (ASB included).



Cut of piston area

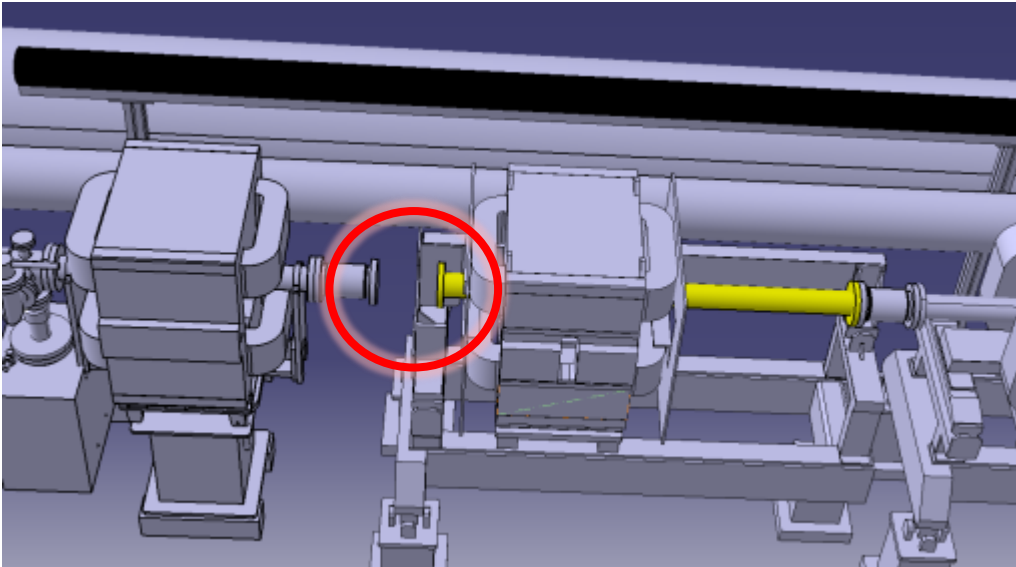


Easy access!

Overview of YETS activities in the LSS

LSS 4

- BSRT in 5L4, 5R4
- Installation of beam gas fluorescence monitor in 5L4 BGI area → layout slightly modified...



5L4 BGI area

Overview of YETS activities in the LSS

LSS 6

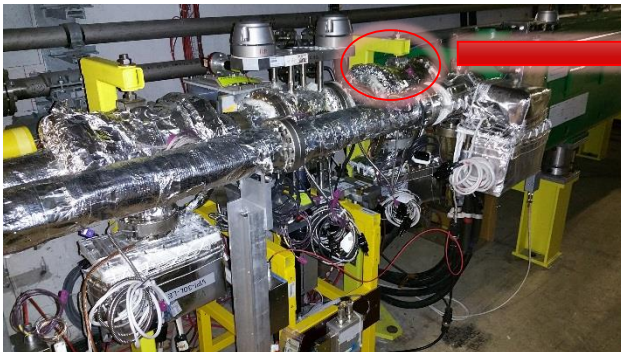
Leak detection of CTD62

LSS 7

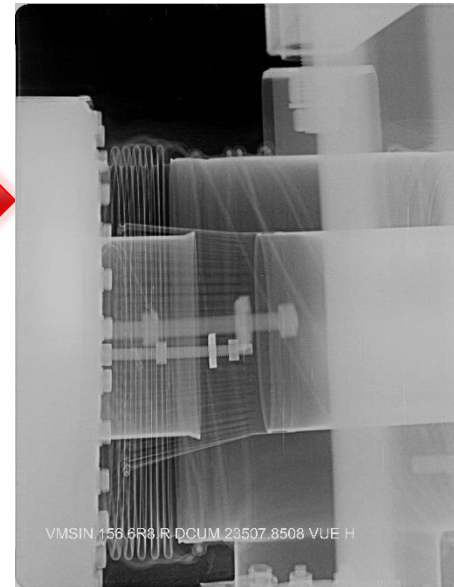
New Crystal Collimator (TCPC) in 5R7

LSS8

VMSIN.156.6R8.R RF finger exchange



A6R8 between BTV and MSI

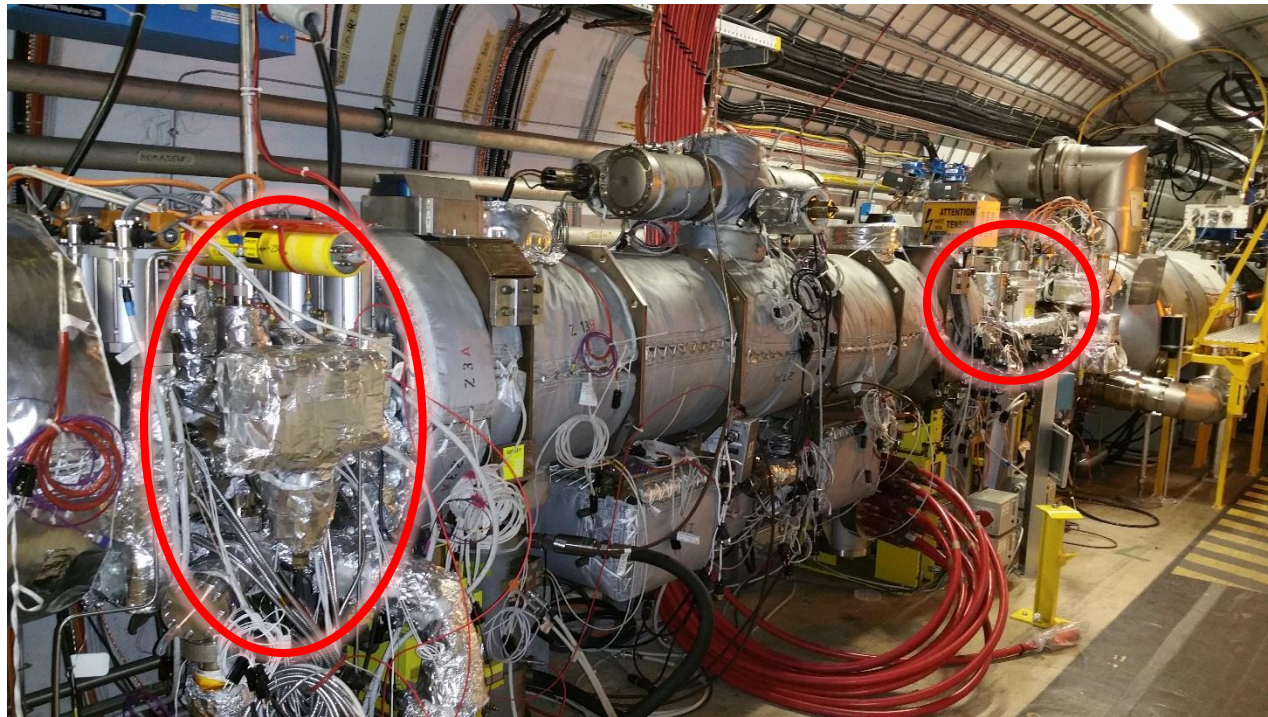


A6R8 between BTV and MSI

Overview of YETS activities in the LSS

LSS8

Exchange of LHC Kicker Magnet MKI8D



Overview of YETS activities in the LSS

All points (Controls)

General corrective maintenance activities

De-cabling, re-cabling for mechanical interventions

Checking of measurement chains (Penning and Ion Pumps gauges giving interlocks)

No new sectorization, no new instruments/controllers providing interlocks/alarms

Valves & Interlocks tests status (09/03/18)

Point	Status	Date	BIC	Results	Comments
LSS1	B1/B2 left/right done	08/03/18	w/o	B1/B2 left/right ok	X beam valves not tested
LSS2	B1/B2 right done	28/02/18	w/o	B1/B2 right side ok	<ul style="list-style-type: none"> Left side scheduled the 09/03/18 (MKI + alarms) X beam valves not tested
LSS3	done	28/02/18	w/	All ok	ASB switches changed and tested the 01/03/18
LSS4	done	28/02/18	w/	<ul style="list-style-type: none"> 1 controller giving wrong interlock (solved) 1 valve blocked open (will be changed during LS2) 	Remains to test ADT/RF alarms
LSS5	B1/B2 left/right done	08/03/18	w/o	B1/B2 left/right ok	X beam valves not tested
LSS6 TD62/68	done	05/03/18	w/	All ok	MKB alarms tested
LSS7	done	08/03/18	w/	All ok	
LSS8	B1/B2 left done	28/02/18	w/o	B1/B2 left side ok	<ul style="list-style-type: none"> Right side scheduled the 09/03/18 (MKI + alarms) X beam valves not tested



Conclusion

All the procedures described in the MPS aspects of the Vacuum System Commissioning [LHC-OP-MPS-006](#) (EDMS 896391)

LSS2 and LSS8 valves test (with MKI): 09/03/18

ATLAS pump-down: 05/03/18 to 12/03/18

ALICE (no intervention during this YETS, manual valve closed)

CMS pump down: 21/03/18 to 26/03/18

LHCb pump down: 12/03/18 to 21/03/18