

# Readiness for first beam

## Vacuum System


[Procedure EDMS 896391](#)

# Vacuum Sector Valves & Interlocks

	Valve opening	Vacuum BIS Interlock
IP1	06/03/2023	
IP2	29/02/2024 & 06/03/2024	
IP3	26/02/2024	
IP4	26/02/2024	
IP5	27/02/2024	
IP6	27/02/2024	
IP7	27/02/2024	
IP8	29/02/2024 & 04/03/2024	


- Major changes during YETS23-24
  - New ion pump controllers in P1/P2/P5/P8
    - Provide interlocks to the sector valves
  - Isolation amplifiers (0-10V to 4-20mA) for Penning gauge signals sent to the MKI system
  - (LHCb VELO)
    - New vacuum safety system commissioned in 12/2023
    - Process modification tested in 01/2024
    - SMOG2 injection tested this week (W10)

# Machine checkout

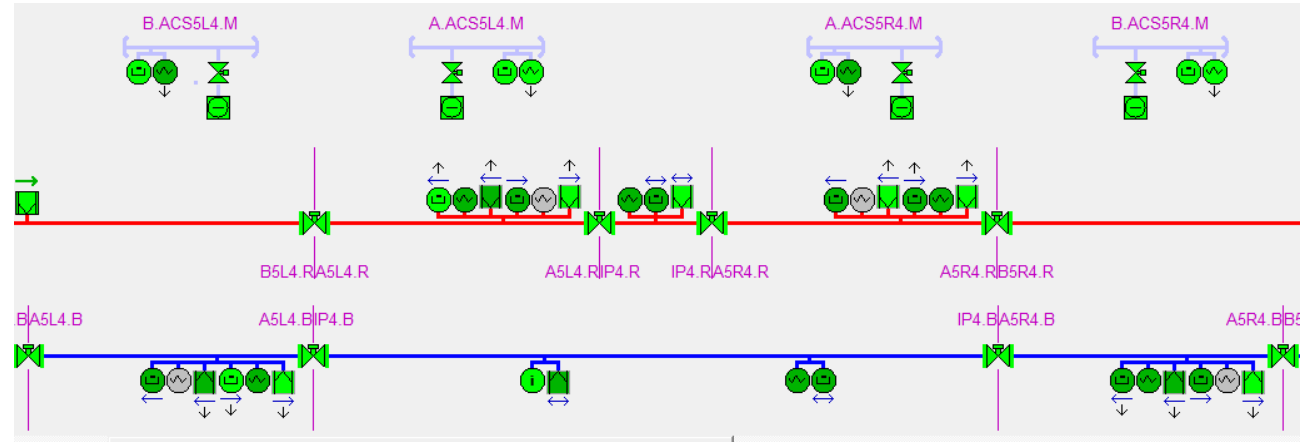
	Status
MPP/VAC - MC1 - User permit	
MPP/VAC - MC2 - Pressure source	
MPP/VAC - MC3 - Pressure interlock	
MPP/VAC - MC4 - User permit transition	
MPP/VAC - MC5 - Interlock propagation	
MPP/VAC - MC6 - Delay (interlock - beam dump)	
MPP/VAC - MC7 - Delay (not open - beam dump)	
MPP/VAC - MC8 - Delay (not open - closed status)	

- LSS1:
  - Disconnected interlock cables => solved
- LSS8:
  - VVGRT.136.5R8.B not reaching the open position
    - Mechanical problem => solved

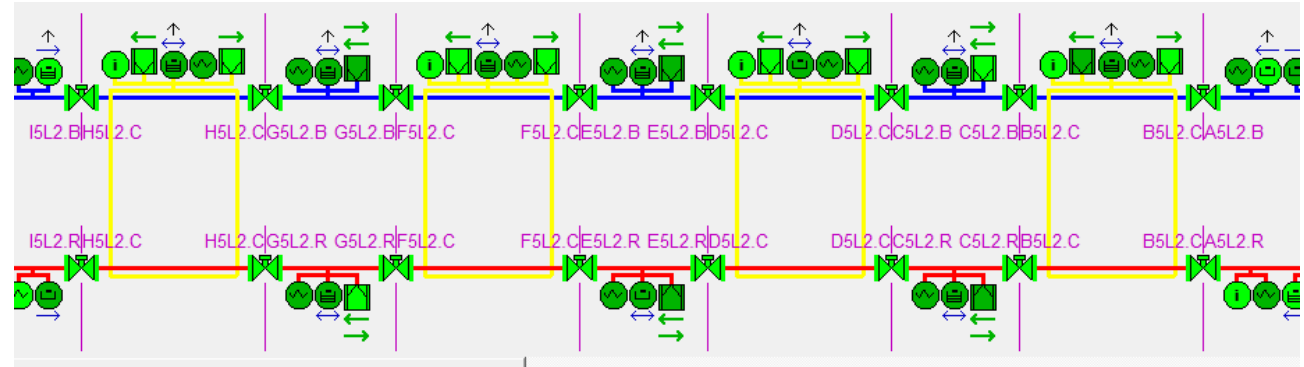
# RF link


	Status
MPP/VAC - RF1 - Pressure	
MPP/VAC - RF2 - Front ends	
MPP/VAC - RF3 - Signals	08/02/2024
MPP/VAC - RF4 - Logging	08/02/2024

w/ D. Landre



# MKI link

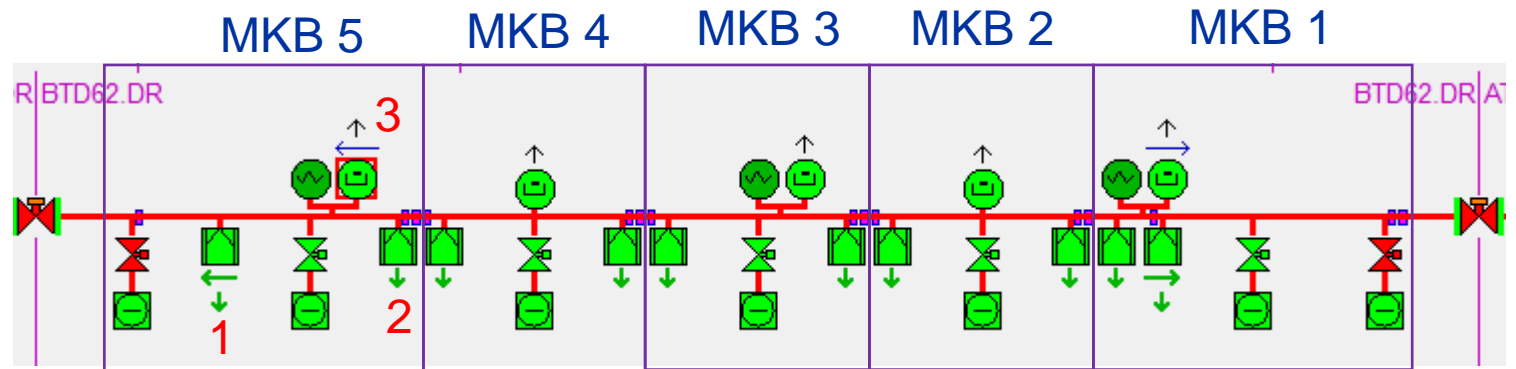



	Status
MPP/VAC - MKI1 - Pressure	
MPP/VAC - MKI2 - Front ends	
MPP/VAC - MKI3 - Signals	07/12/2023
MPP/VAC - MKI4 - Logging	08/12/2023

w/ C. Lolliot

- Penning gauges under range (vacuum < E-11 mbar) and not reactive in some tanks of the LSS8 (A & D)
- Provided the vacuum signals from the ion pumps (2x per tank)
  - Used in addition of the Penning signals for kicker's protection
- Provided the CMW variables of the Bayard-Alpert gauges
- Additional tests performed in 02 and 03/2024

# MKB link



	Status
MPP/VAC - MKB1 - Pressure	
MPP/VAC - MKB2 - Front ends	
MPP/VAC - MKB3 - Signals	08/02/2023
MPP/VAC - MKB4 - Logging	08/02/2023

w/ V. Senaj

**Thank you for your attention**