



# DT gas system

- **DT gas system status :**
- **DT gas system mode (open/closed loop):**
  - The closed loop mode (recirculation and only 15% of fresh gas) was used during the YETS 25/26
  - The open loop mode is required and used for the Run-3 data taking up to end of June 2026: it is now running continuously and smoothly
  - The closed loop mode is usually used during the YETS or long shutdowns.  
*This is our preference and request for LS3.*
- **DT gas system monitoring in USC:**
  - **O<sub>2</sub>/H<sub>2</sub>O monitoring :** this monitoring will not be maintained a priori in the GCS at the beginning of LS3 due to the network blackout. This will require a regular check in-person in the UGX to read directly the measured values.
  - **vDrift (VDC device) monitoring :** usually 6 VDCs analyse the fresh gas from the mixer, as well as the outputs of all 5 wheels (time granularity : 1 hour per chamber, ie. need of 2 days to make a complete scan of the system). Last radioactive sources check with CERN RP went fine and no additional sources removed. The system will stay operational up to the beginning of LS3
    - At the beginning of LS3, all 12 <sup>90</sup>Sr sources will be removed from the VDC rack S1L01 and stored by CERN RP



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- DT gas system pending issues/activities:
- DT gas system monitoring:
  - We still have the pending item of the installation of the DT gas chromatograph in S1L04 rack. This would allow a continuous monitoring of additional quantity (N<sub>2</sub> in particular) at the output of the system. A software update of the DT GC is necessary to restore the current device still located in SXA5.
- DT gas system communication between experts and gas group:
  - We reinforce our request to always communicate to the DT contact/on call *prior* to any action on the DT gas system.
  - In particular there was an incident on the 3<sup>rd</sup> of March: the DT gas system was stopped after a none-announced intervention on the third line (gas bottle of air) in SGX. Follow-up with CMS TC also on-going how to improve the communication procedure.