



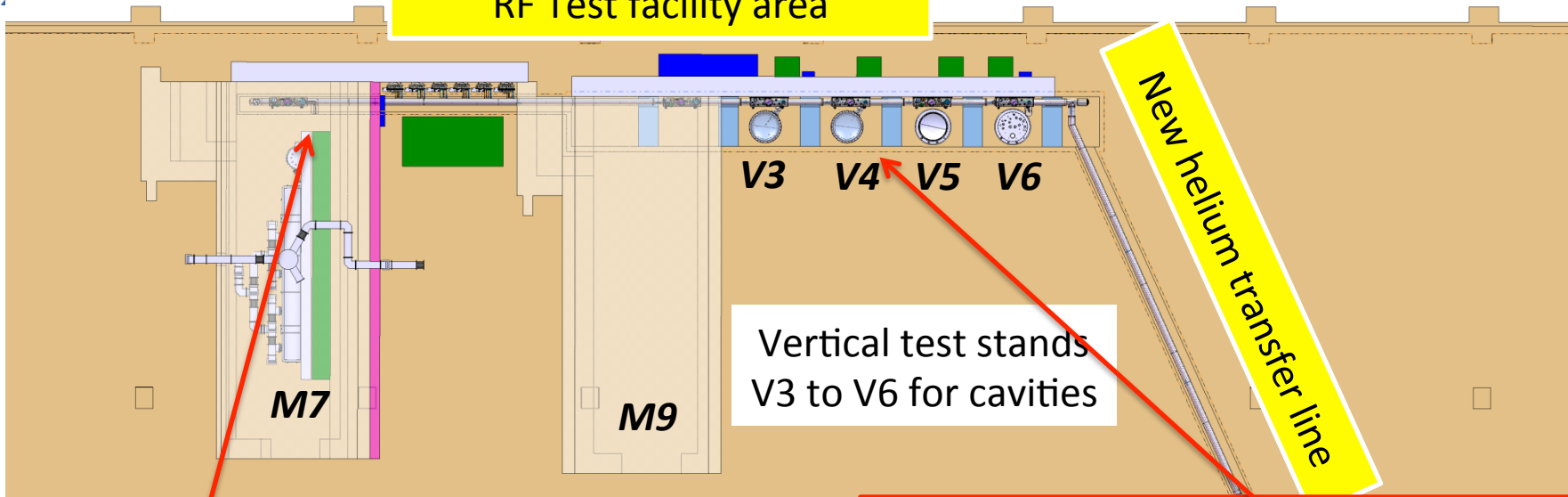
CERN SM18 RF Test Facility

Helium distribution

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P. Maesen, M. Therasse

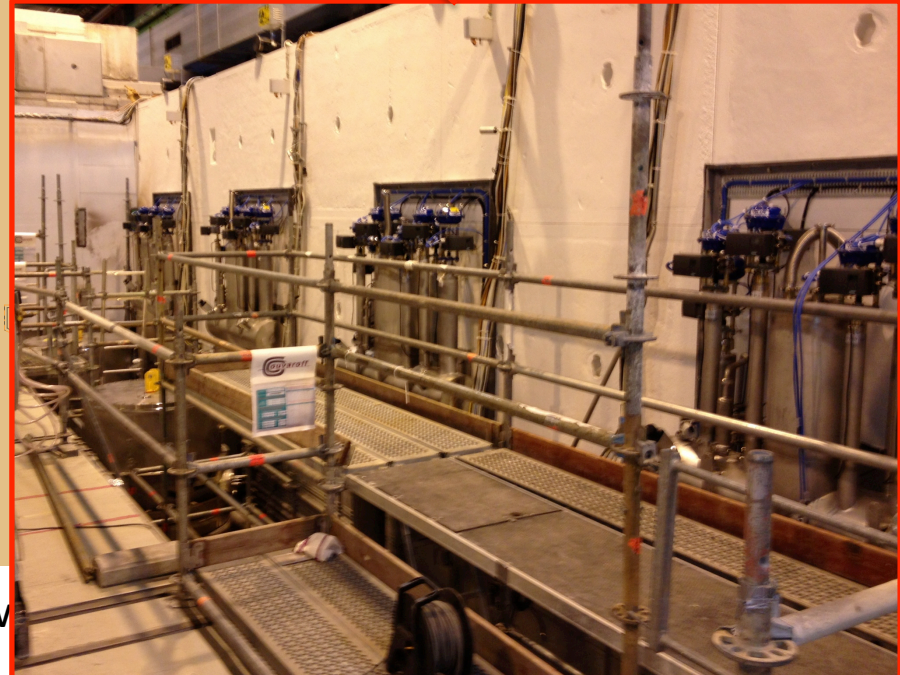
SLHiPP meeting 17. - 18. April 2013

RF Test facility area

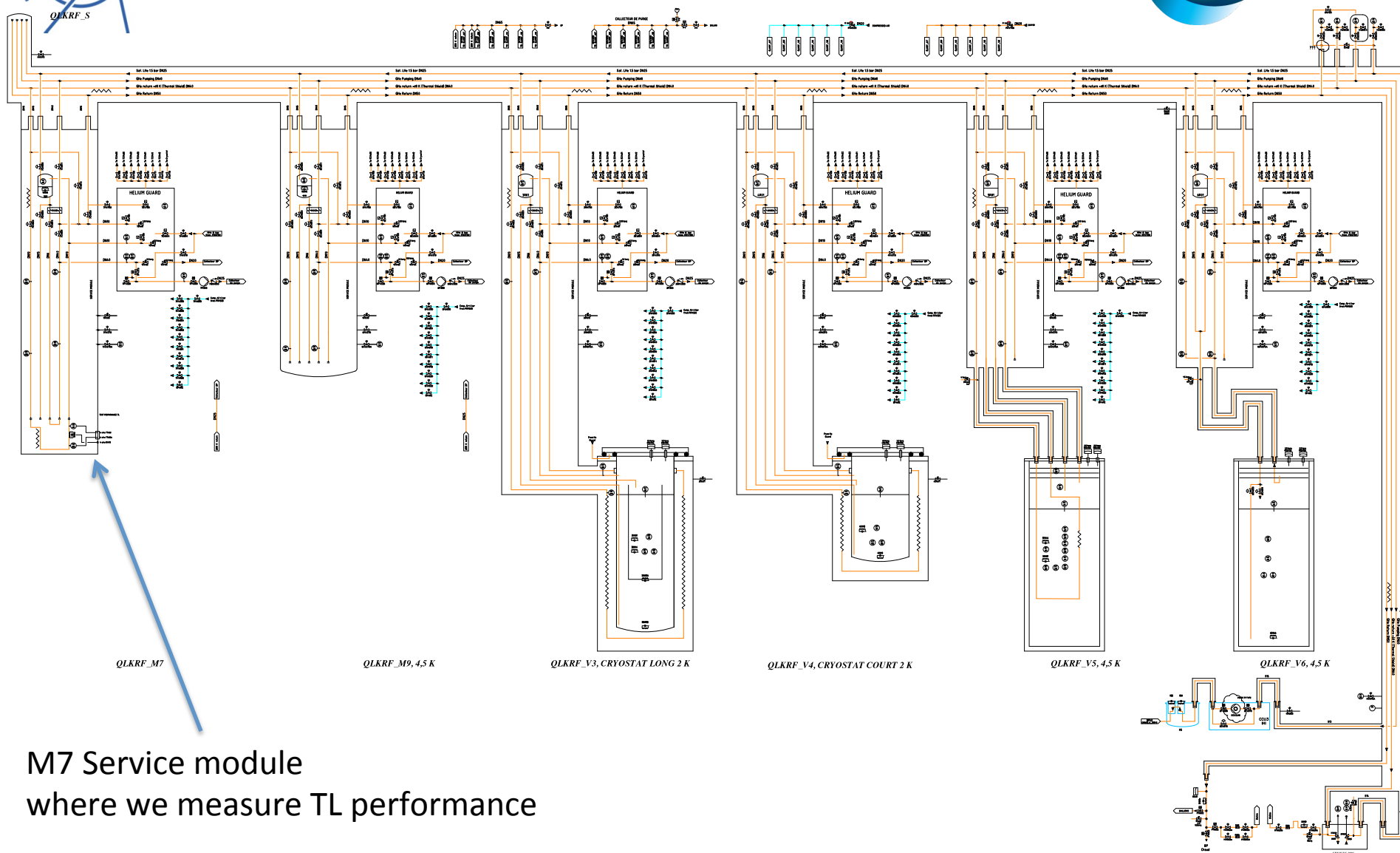


Vertical test stands
V3 to V6 for cavities

New helium transfer line

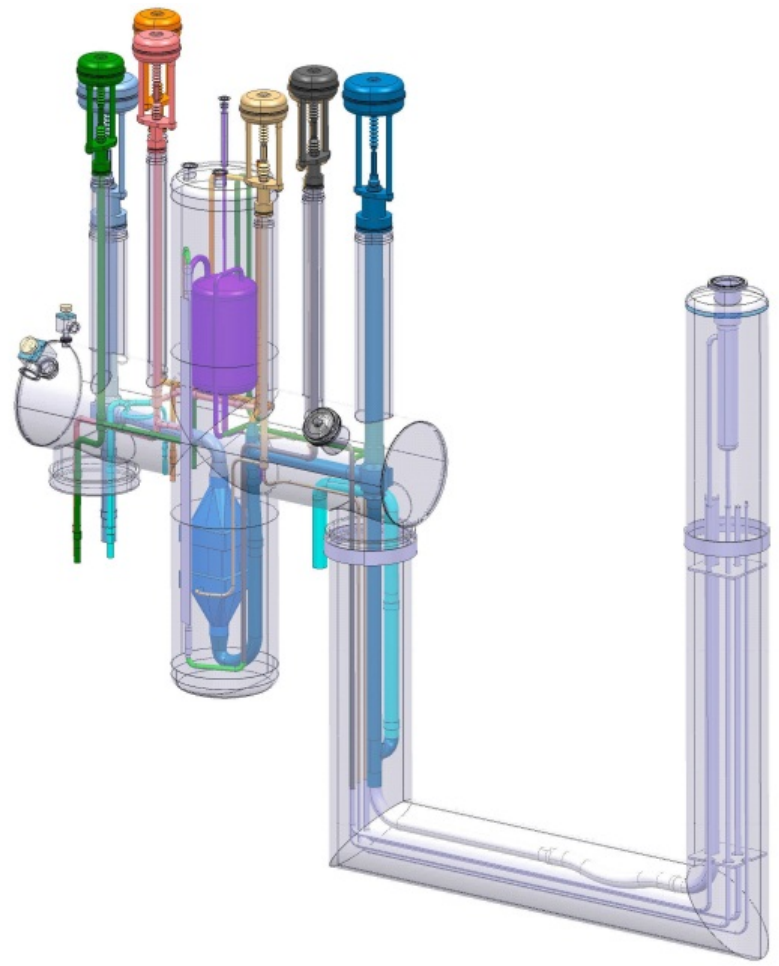
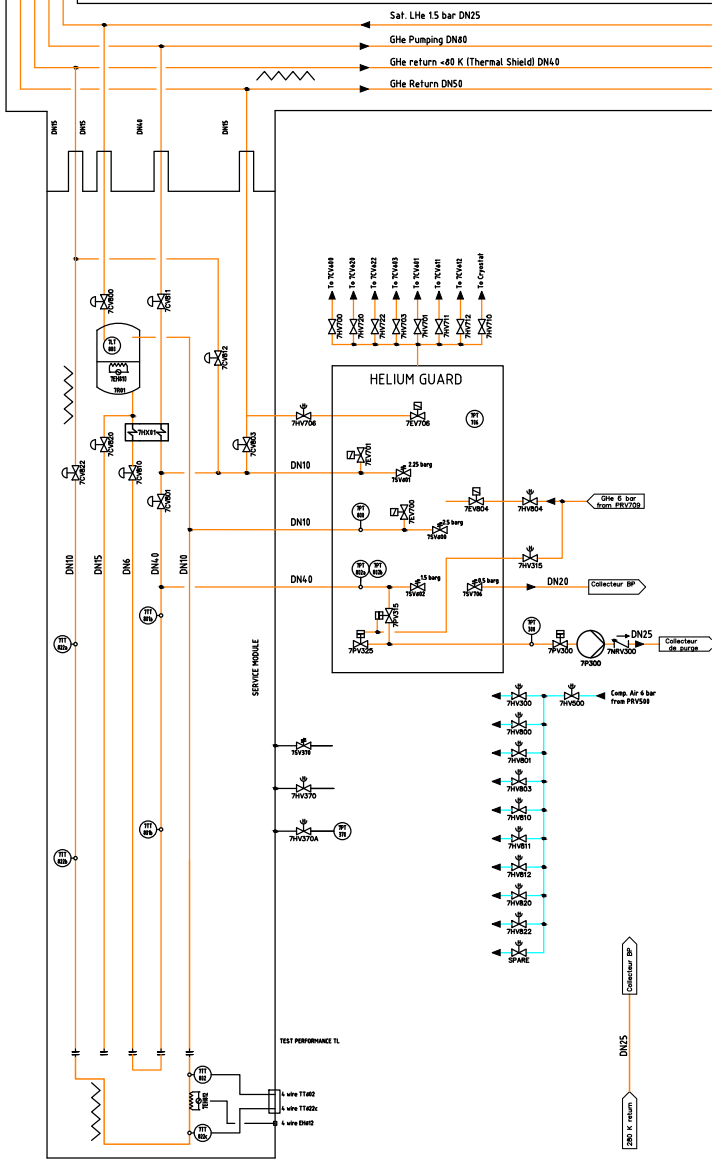


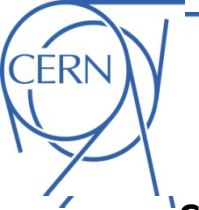
ea, show



M7 Service module
where we measure TL performance

QLKRF M7 @ 2 K





Parameters SPL CM

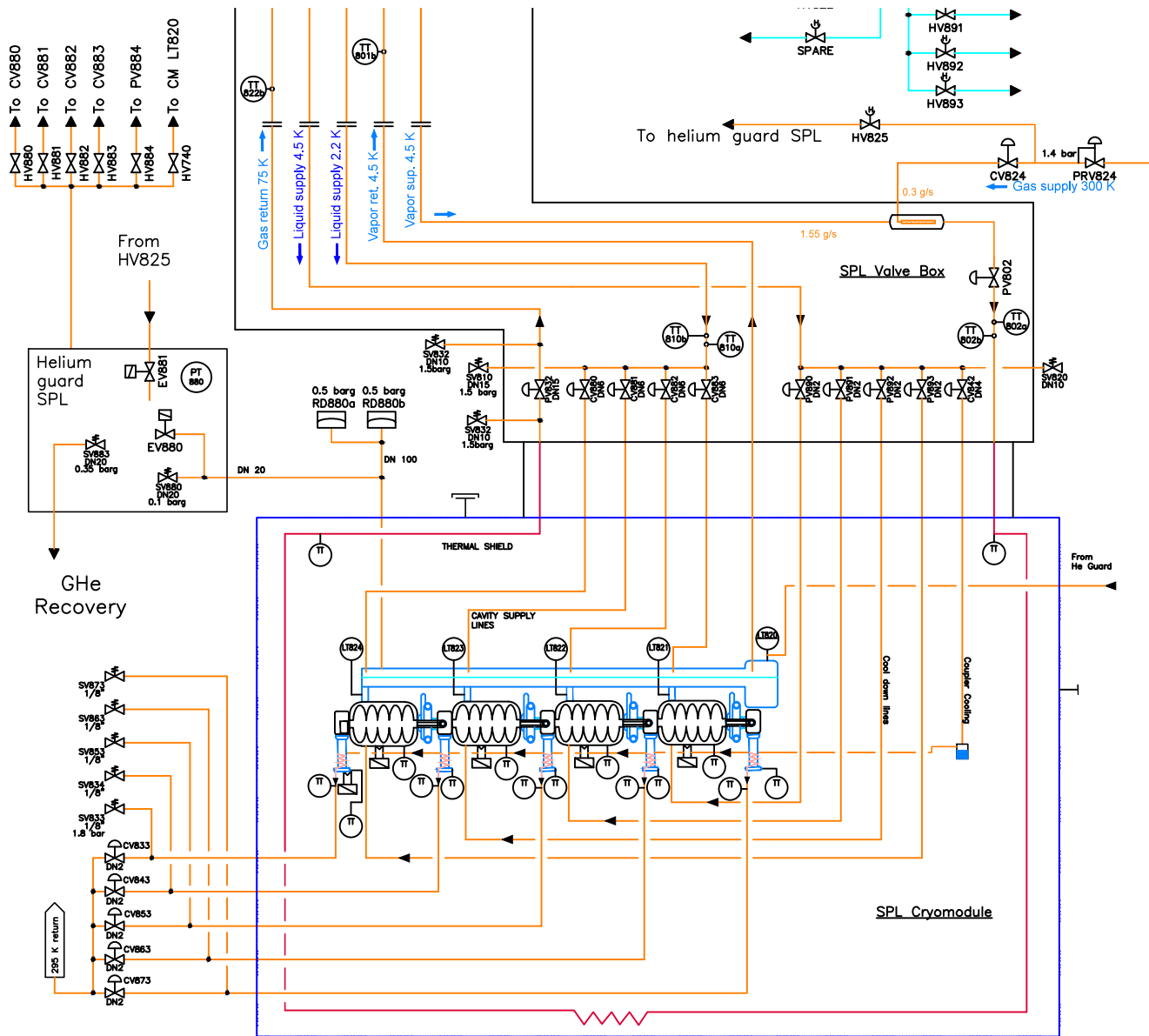


Specifications of SPL CM connected to M7 helium distribution:

SPL valve box supplies helium at max. 1.5 bara for the cavity and shield circuit.

Circuit	Temperature in K	Pressure in MPa	Heat load in W	Nominal mass flow
Thermal radiation shield	50 – 75	0.11 – 0.15	240	1.85 g/s
Cavity supply static + dynamic	2.2	~0.13	200	10 g/s
VLP helium return	2	0.0031		10 g/s
Liquid supply (Coupler + CD)	4.5	~0.13		5 x 40 mg/s
Power coupler return	295	0.11		0.2 g/s

M7 PID



1.7 %



Summary



Accomplished tasks:

Commissioning of the new cryogenic infrastructure in SM18 RF test area.

Functional specification of the helium distribution system incl. PID.

Definition of the safety device equipment of the transfer line.

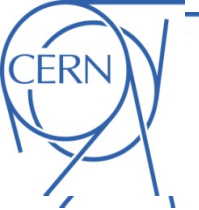
Open tasks:

Start cryogenic operation of vertical test stands V5 and V3.

Cryogenic performance measurement of the new transfer line.

Define the interconnection to clients in the horizontal test stands (**SPL**, Hie-Isolde, Crab, LHC).

Integration study for cryogenics in the horizontal bunkers.



Thank you for your attention

SM18 RF TL performance

