



MERIT Video Conf. Cryogenics

CERN

Feb. 14, 2007

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CERN

Cryogenics for Experiments

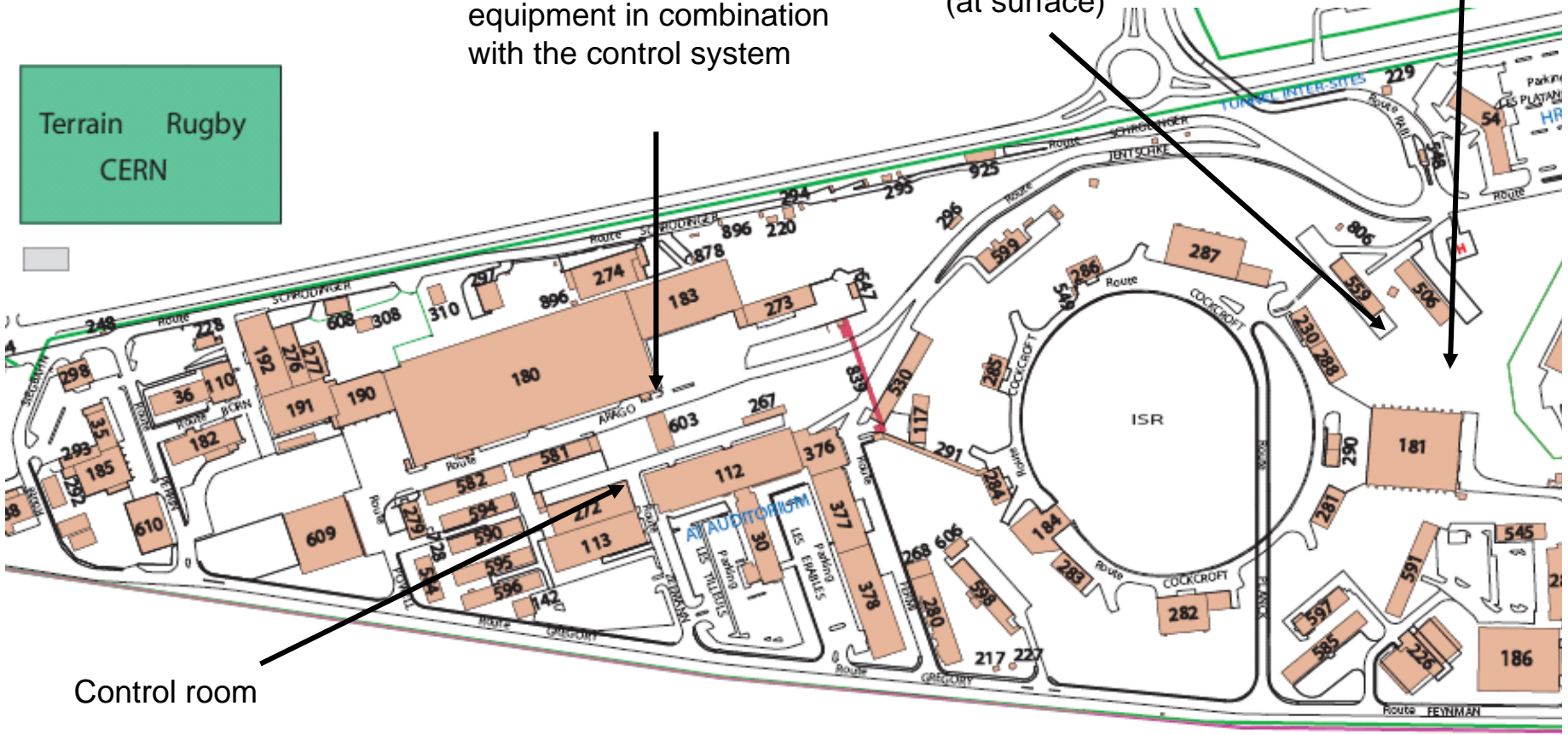
On Surface Commissioning at Hall 180 + Final location of MERIT

Location of test area at hall 180 for the pre-commissioning cryogenic equipment in combination with the control system

Approximate location of LN2 dewar (at surface)

Approximate location of MERIT at n-TOF (underground)

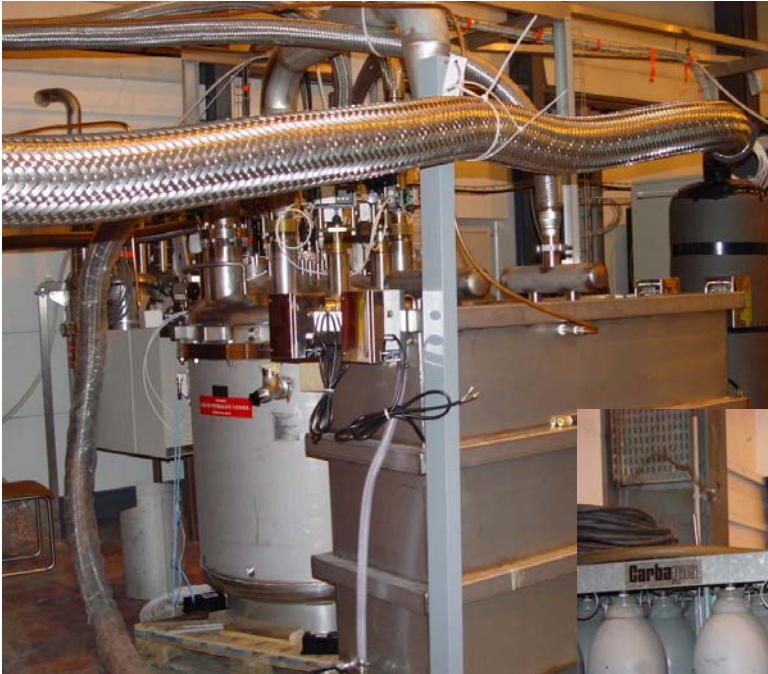
Terrain Rugby CERN



Control room

Lay-out of CERN Meyrin (western part) with MERIT locations

Distribution Valve Box and other equipment



DVB and Heat
Exchanger



GN2 bottles for
pressurisation



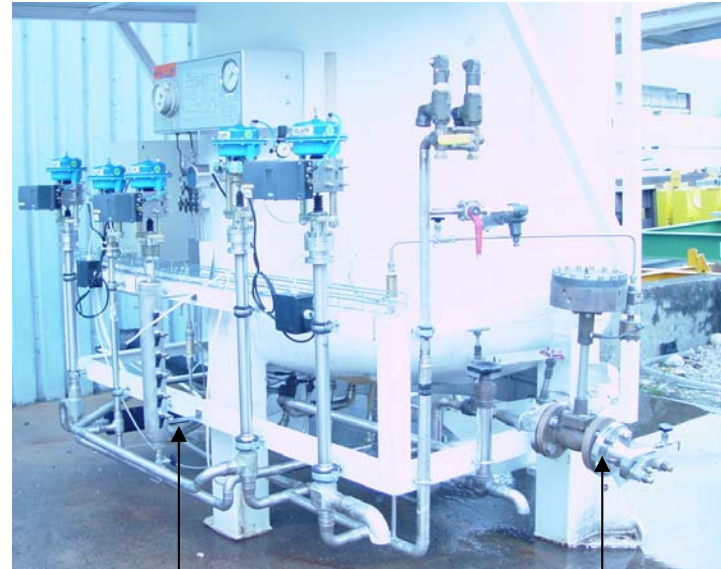
Electric cabinet
on DVB

Distribution Valve Box with Heat Exchanger and temporary buffer volume



Buffer volume to simulate magnet cryostat volume with integrated Heater to simulate evaporation during recooling

Liquid Nitrogen Dewar



Control Valves installed and connected.

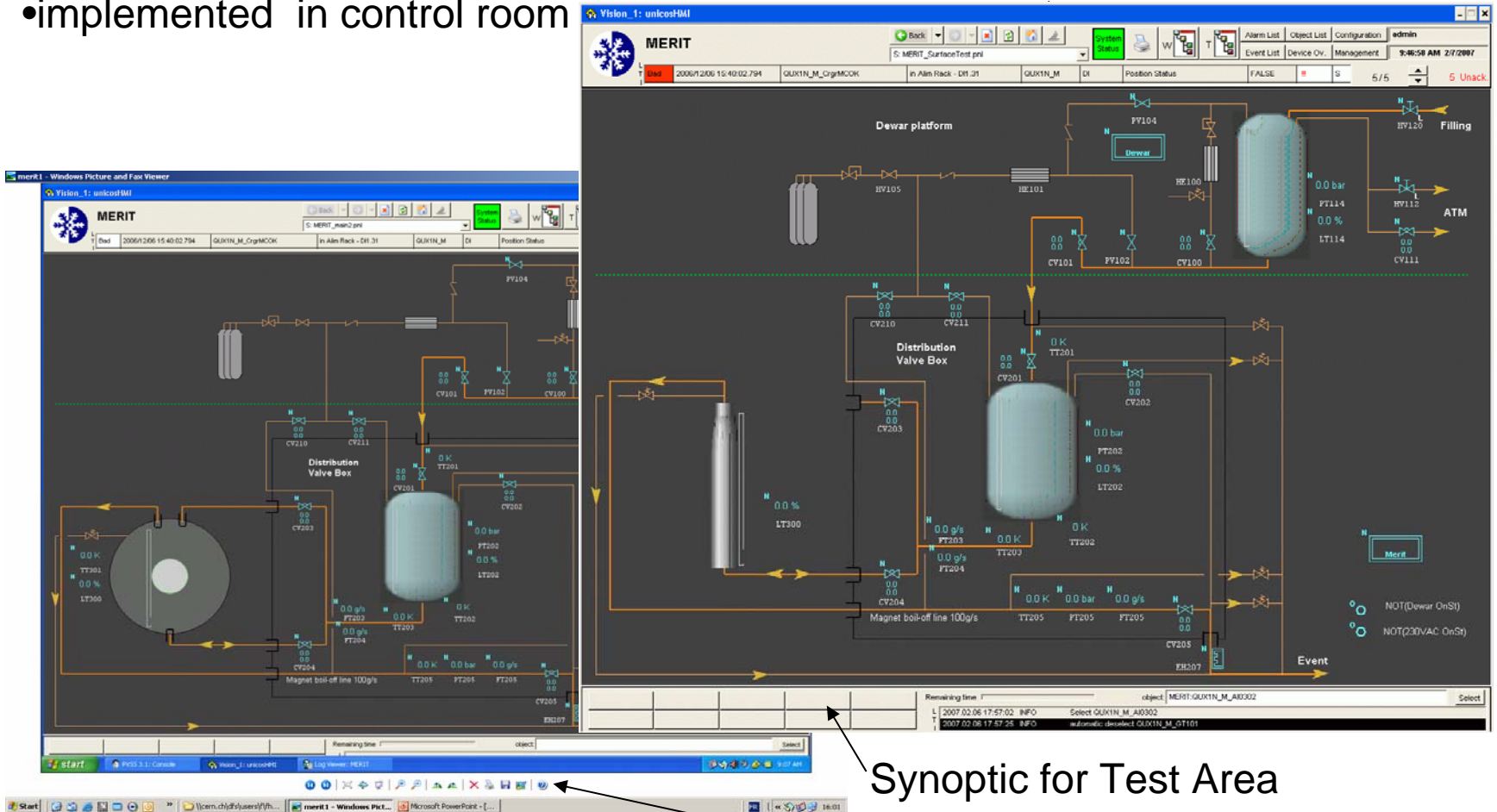
Special Filling « Safety » Valve

Control Room, Electric Racks , PLC



Controls

- Functional cryogenics logic terminated
- Unicos Process logic programmed
- Supervision (PVSS) program terminated for final point (with magnet) and for test area (with magnet cryostat simulated)
- implemented in control room



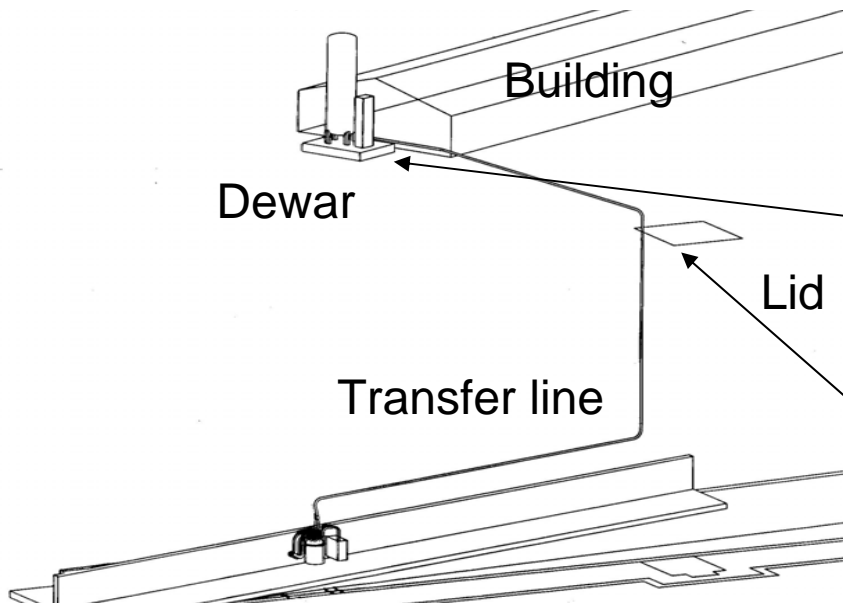
Synoptic for Test Area

Synoptic for final point

Situation at test area

- Mechanical installation completed
- All instrumentation installed
- Cabling terminated this week
- Process control PLC, supervision and network installed
- Process control and supervision logics done and implemented
- Week 7: « synchronisation » of the complete system
- Week 8 +: pressure test. cold tests (filling of dewar , cool down of system, calibration of sensors and control equipment, simulation of cycle with cooling, filling, emptying etc.)

Progress on Construction site at final place



Flexible transfer line under construction



Concrete platform for dewar



Concrete support posts for transfer line