The CERN Target Experiment Schedule and Budget

MERIT Review

BNL

December 12, 2005

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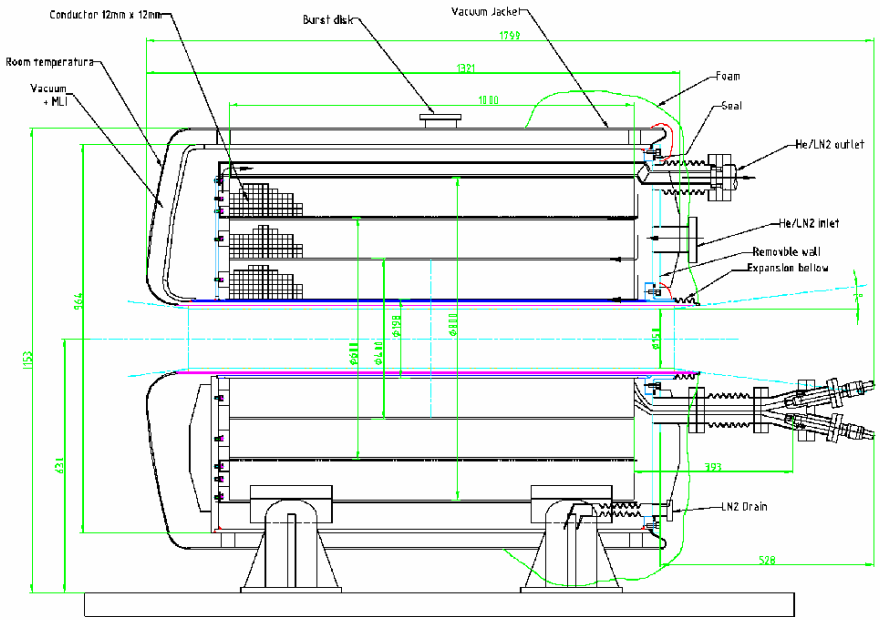
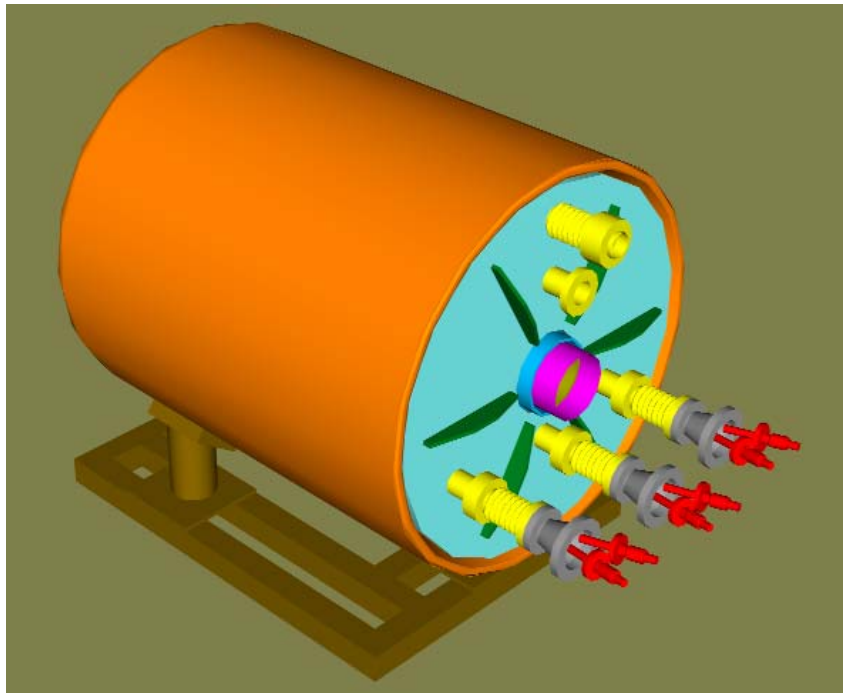
The Funding Profile

	Tech. Board Sept. 21 2004	MERIT Review Dec. 12 2005	Spending Profile by FY		
			FY05	FY06	FY07
Magnet Systems					
Fabrication	0	60	60	0	0
Testing	200	200	48	112	40
Cryogenics	550	385 *	0	250	135
Power Supply	390	210 *	0	160	50
Hg Jet					
Systems integration	200	200	85	75	40
Nozzle development	50	65	25	40	0
Optics components	25	100 *	16	74	10
Fabrication	40	170 *	0	170	0
Shipping	0	20	0	14	6
Operations	218	263 *	19	65	179
Decommisioning	60	60	0	0	60
Simulations	150	150	40	50	60
Material R&D	75	75	30	0	45
3 Year Project Cost	1958	1958			
Spending Profile			323	1010	625
Funding Profile			693	640	625

* Includes 20% Contingency

High Field Pulsed Solenoid





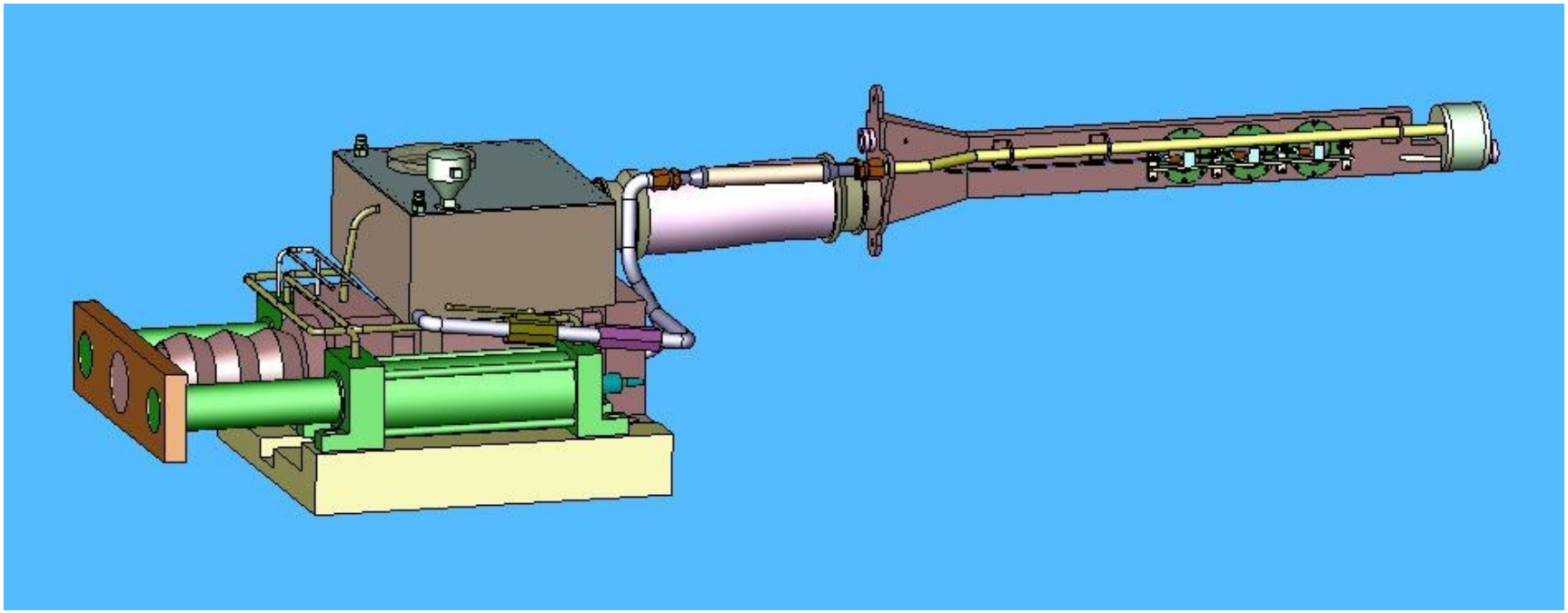
- 80^{o} K Operation
- 15 T with 5.5 MW Pulsed Power
- 15 cm warm bore
- 1 m long beam pipe

Peter Titus, MIT

Pulsed Solenoid Milestones

Delivery to MIT	December 05
Reception Testing	January 06
Integration Testing	September 06
Ship to CERN	November 06
Installation at CERN	December 06

The Hg Jet System



Double Containment System, with snout inserted into magnet.

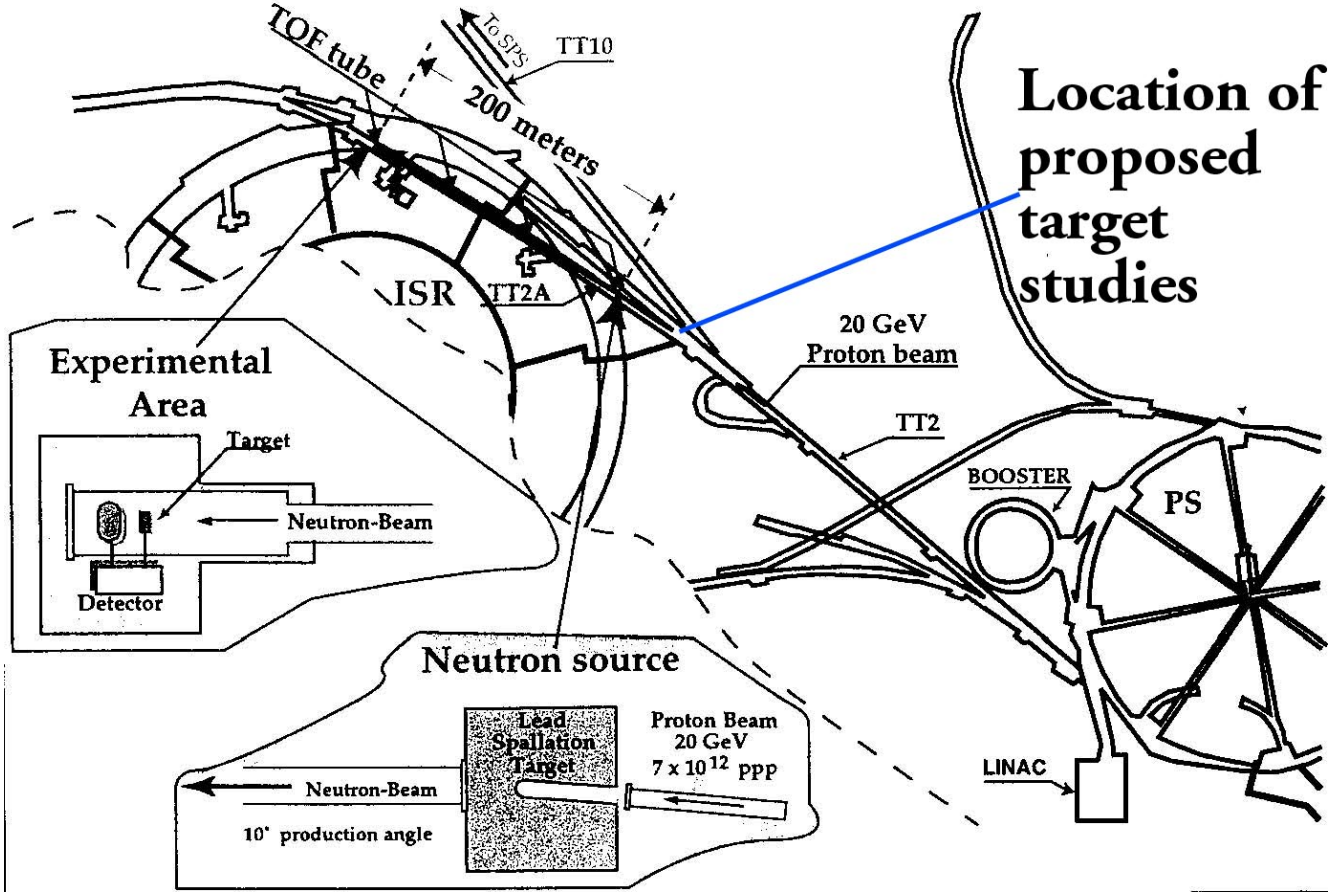
Mercury inventory ~ 20 liters.

Hydraulic system can deliver up to 1000 psi, to propel mercury at > 20 m/s

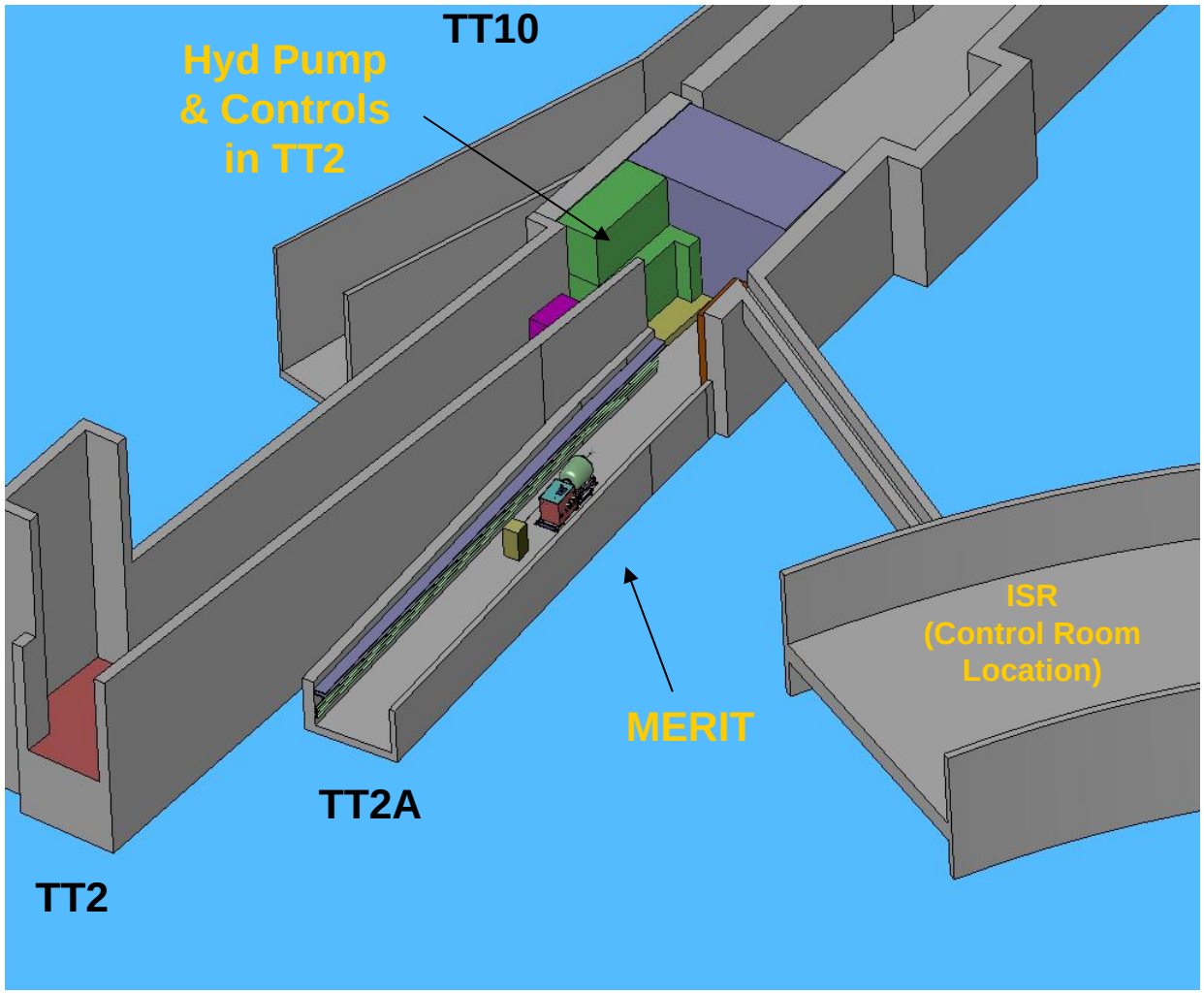
Hg Jet System Milestones

Delivery of Hydraulics	February 06
Containment Vessels	May 06
System integration at ORNL	June 06
Integration Testing at MIT	September 06
Ship to CERN	November 06
Installation at CERN	December 06

Target Test Site at CERN

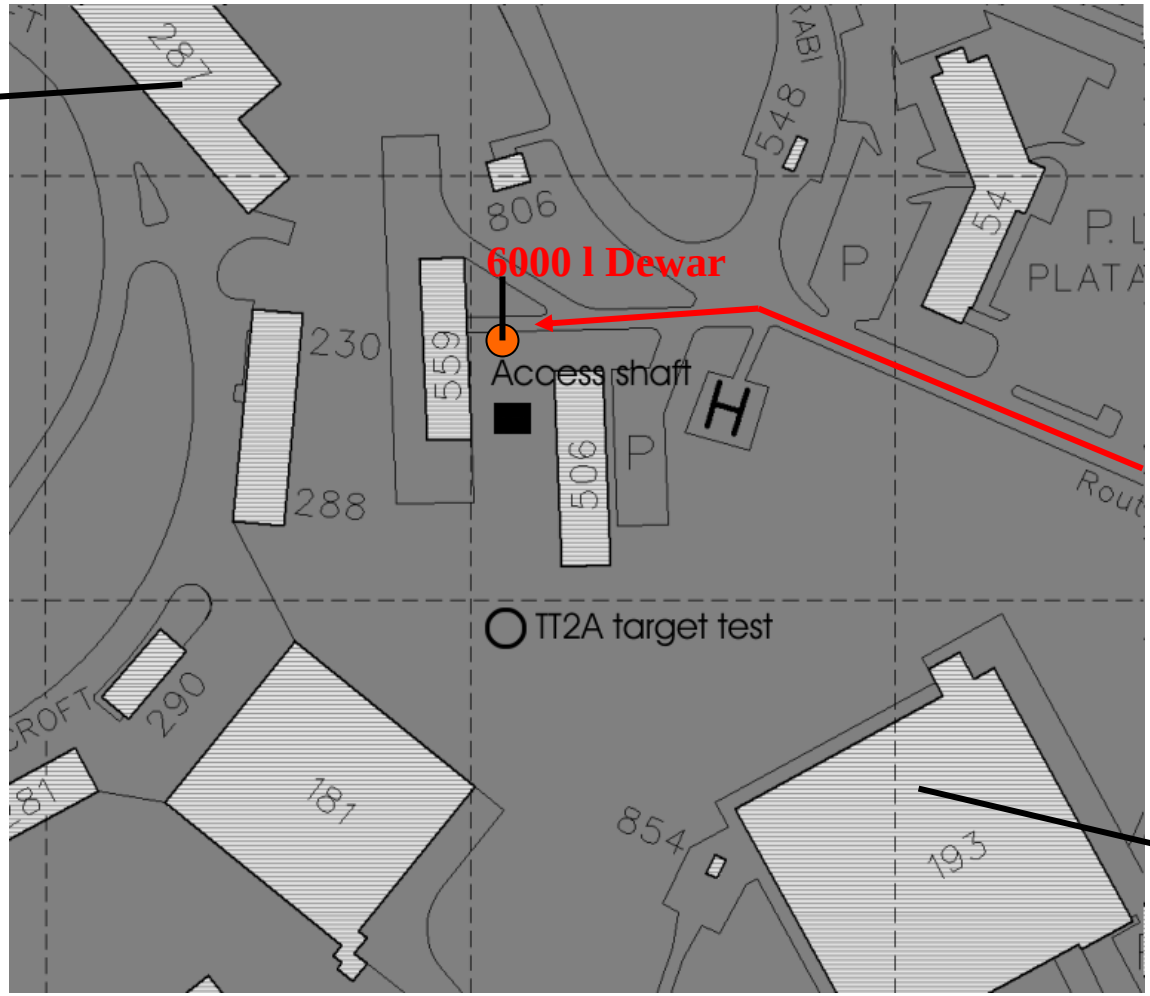


The Tunnel Complex



Surface above the ISR

Two 18kV sub-stations



Access Route

One 18kV Sub-station

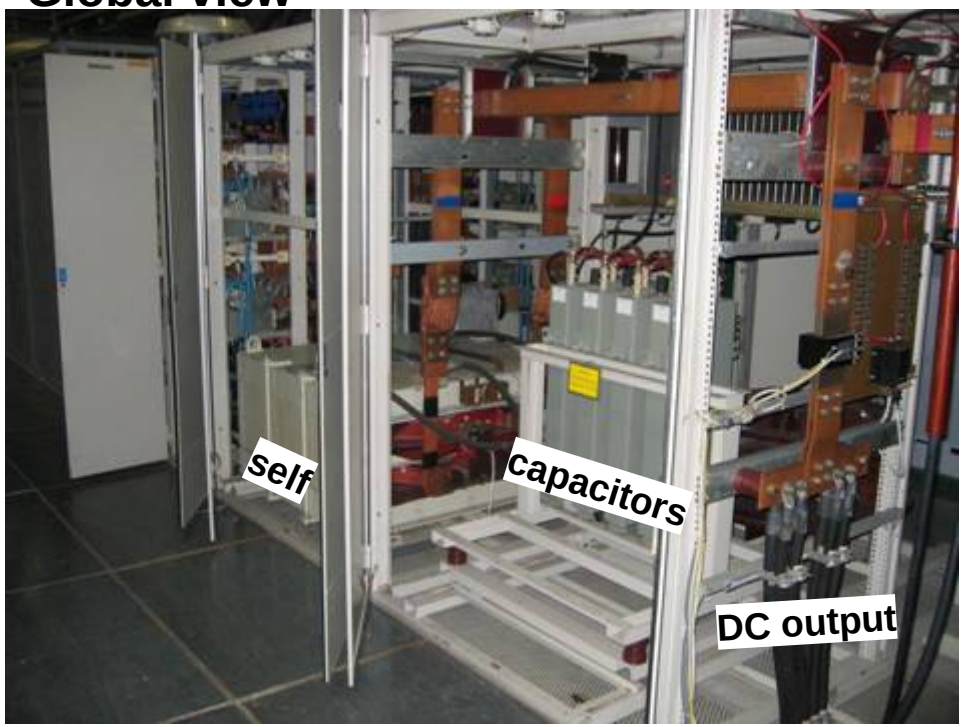
Power Converter (From SPPS Transfer Line)

8000 Adc, 1000 Vdc

Strategy:

- ***Refurbishment of the West Area Power Converter, making it compatible with the project requirements***

Global view



Rectifier bridges

Passive filter

Passive filter capacitors

Power Supply Milestones

Site Preparations	January 06
Transport PS	
Installation	
AC Cabling	
DC Cabling	April 06
Interlocks	October 06
Commissioning	November 06

Cryosytem Layout

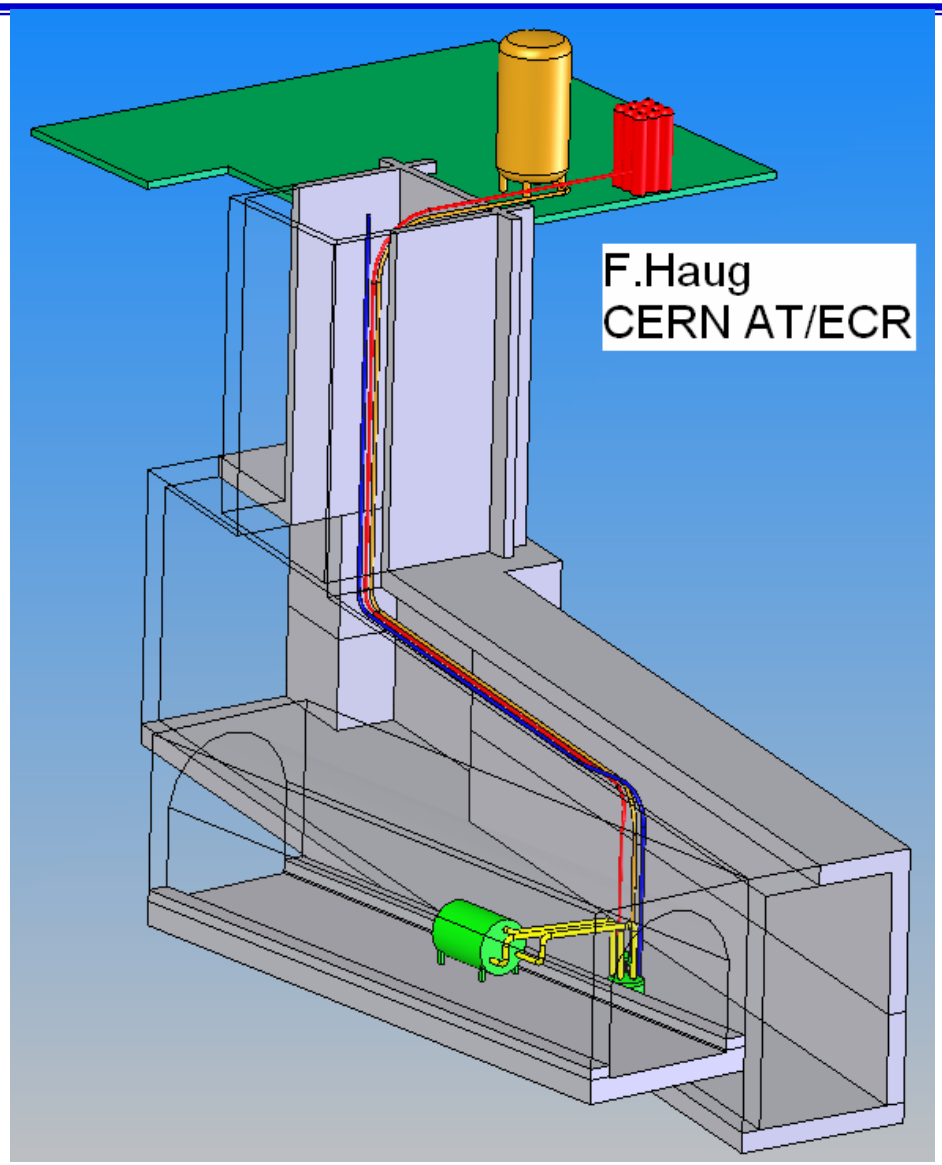
LN_2 and N_2 gas stored on the surface.

Cold valve box in the TT2 tunnel.

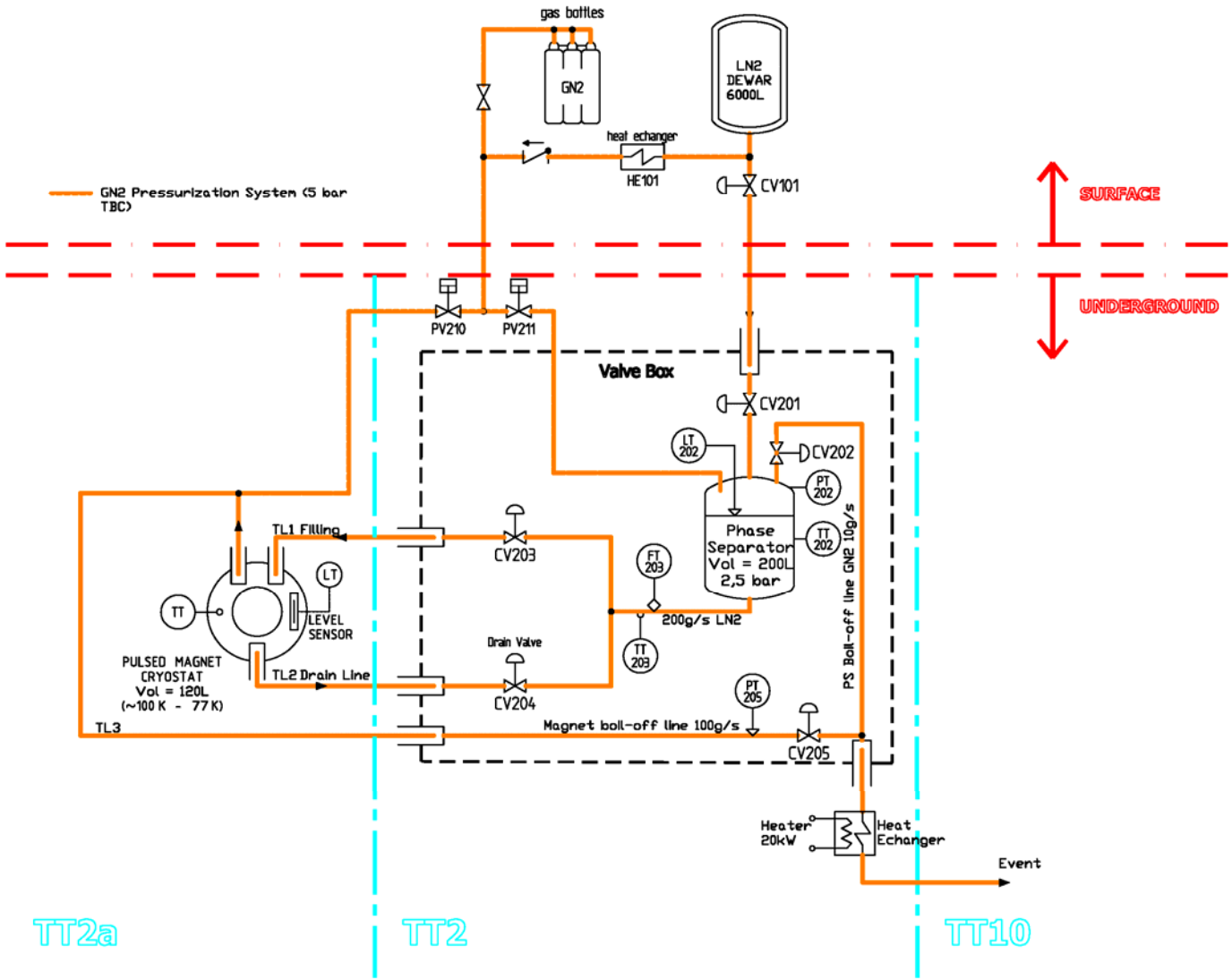
Exhaust gas vented into TT10 tunnel through filtration system.

~ 150 liters of LN_2 per Magnet pulse.

Magnet flushed with N_2 prior to each pulse, to minimize activation of N_2.



Cryogenics Process and Instrumentation



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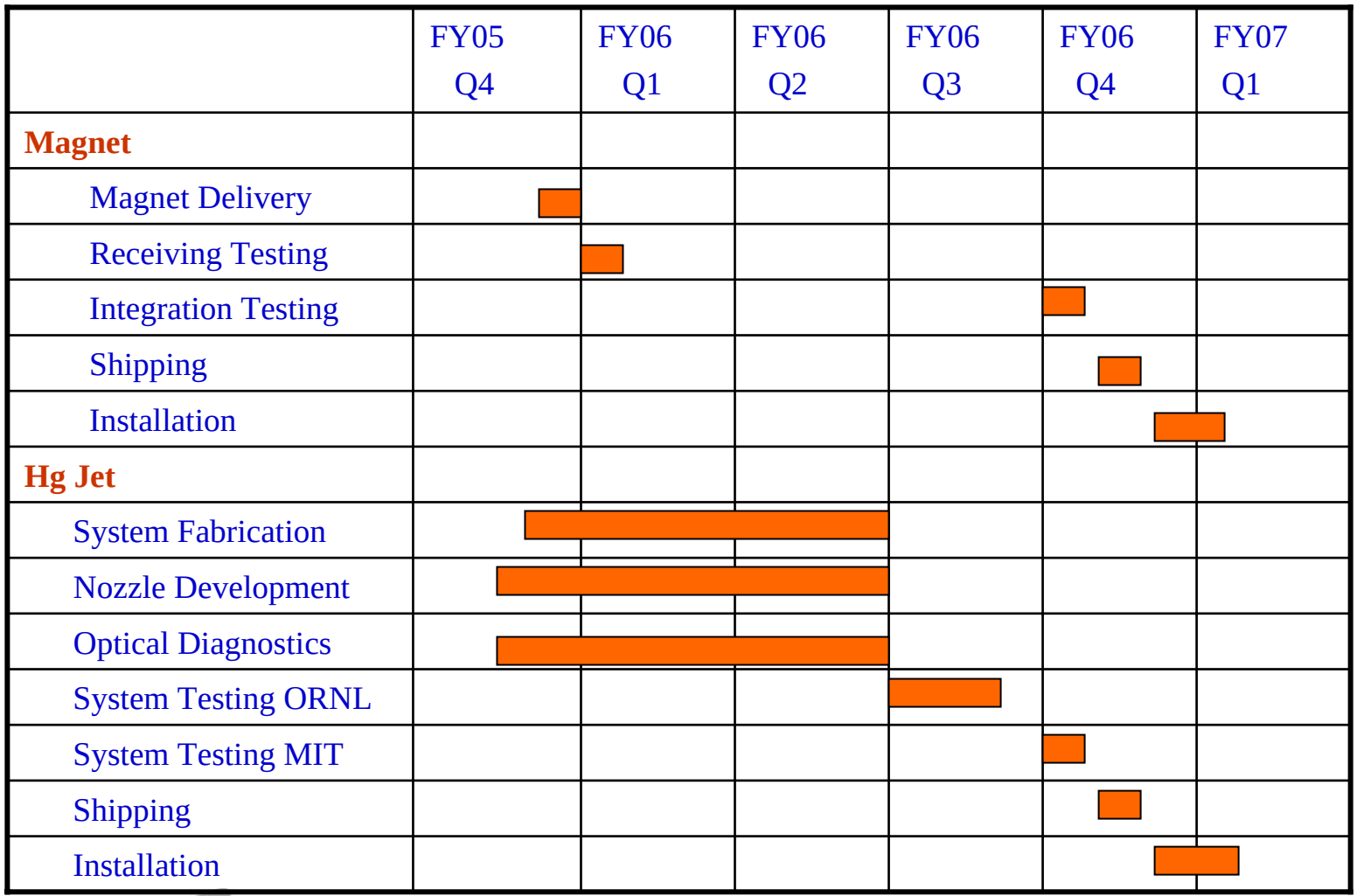
Cryogenic System Milestones

TT10 Vent Installation	January 06
Cold Valve Box Fabrication	
Control System Development	
Surface Preparations	May 06
Cold Valve Box Testing	October 06
Transfer Line Installation	
Heater System Installation	
Cold Valve Box Installation	November 06
Commissioning	December 06

Project Major Sub-systems



CERN Infrastructure

	FY05 Q4	FY06 Q1	FY06 Q2	FY06 Q3	FY06 Q4	FY07 Q1
Power Supply						
Site Preparations						
Installation						
DC Cabling						
AC Cabling						
Interlocks						
Commissioning						
Cryogenics						
TT10 Vent						
Cold Valve Box Fab.						
System Testing CERN						
Surface Preparations						
Tunnel Installations						
Commissioning						