

Infrastructure Topical Meeting

Some Issues

Enhanced LNGS & GERDA cooperation

GERDA bldg – floorplan

Safety devices

Schedules

K.T.Knöpfler

MPI Kernphysik, Heidelberg

ktkno@mpi-hd.mpg.de

GERDA Collaboration Meeting at LNGS

4 - 7 November 2007

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Items of Intense and Timely Cooperation between GERDA & LNGS

... following a suggestion by J. Wilkerson during last SC .

(1) Fast drainage of GERDA water tank as outlined by NIER

- ▶ verify drainage rate of 50 l/s into TIR tunnel pipe
- ▶ verify drainage rate of 50! l/s into 300m³ emergency (GNO) pits
- ▶ priority: high

(2) Discharge of up to 10000 m³ of Ar exhaust gas into LNGS ventilation system

- ▶ implications for gas heater
- ▶ connections to LNGS ventilation system
- ▶ priority: high

(3) Elaboration of evacuation plan – see NIER report

- ▶ proposed time schedule: to be available by mid of 2008

(4) Connection of GERDA monitoring system to LNGS safety system

- ▶ iFIX interface OR transmission of THE critical parameters only?
- ▶ proposed time schedule: decision by end of 2007

(5) Protection of LVD during GERDA construction

- ▶ proposed time schedule: to be available by Feb 2008

(6) Preparation of space for LN and LAr storage tanks

- ▶ removal of hut / door(s) ?
- ▶ getting ready for installation of transfer lines
- ▶ proposed time schedule: asap

(7) Allocation of above- and underground storage space during construction of GERDA (water tank, lab building)

- ▶ proposed time schedule: for water tank until by end of Jan 2008

(8) Preparation of installation of cryostat and preliminary tests

- ▶ install infrastructure, define unloading procedures, define tests: cryogenic, pressure, leak,
- ▶ proposed time schedule: asap

List of items most probably NOT yet complete!

Both GERDA & LNGS will profit from a close and efficient coordination.

Looking forward to a most prolific cooperation!

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GERDA bldg – floorplan

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GERDA Bldg - Floorplan V0

- Purpose

- optimize use of available space

- find optimum cost-effective installations

- > electrical

- > network

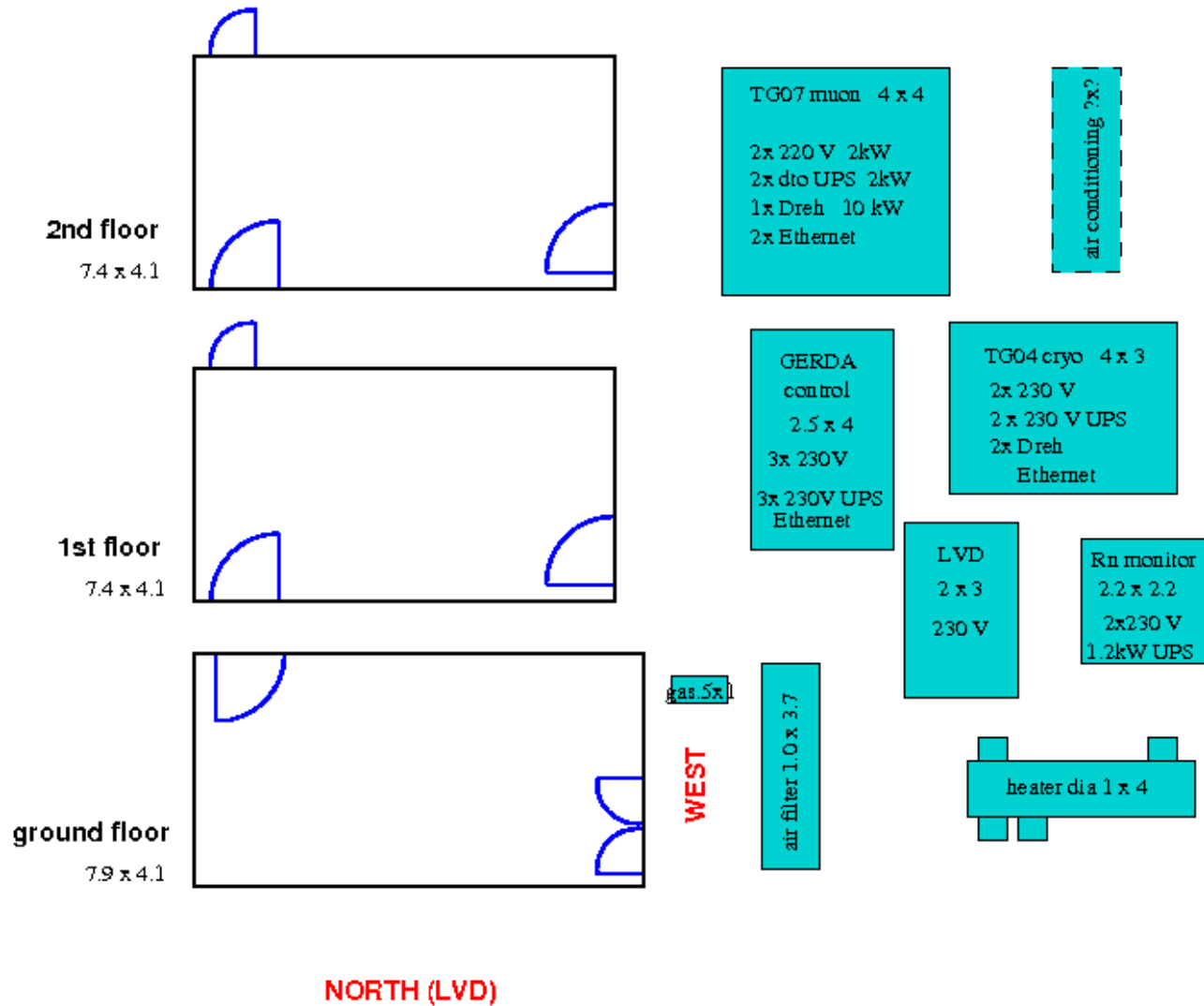
- > pressurized air

- > and more

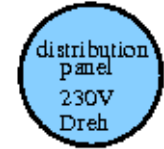
- Still dry run – most probably not yet all input available

floorplan

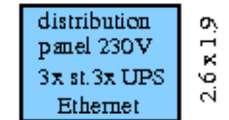
requests – complete?



manifold



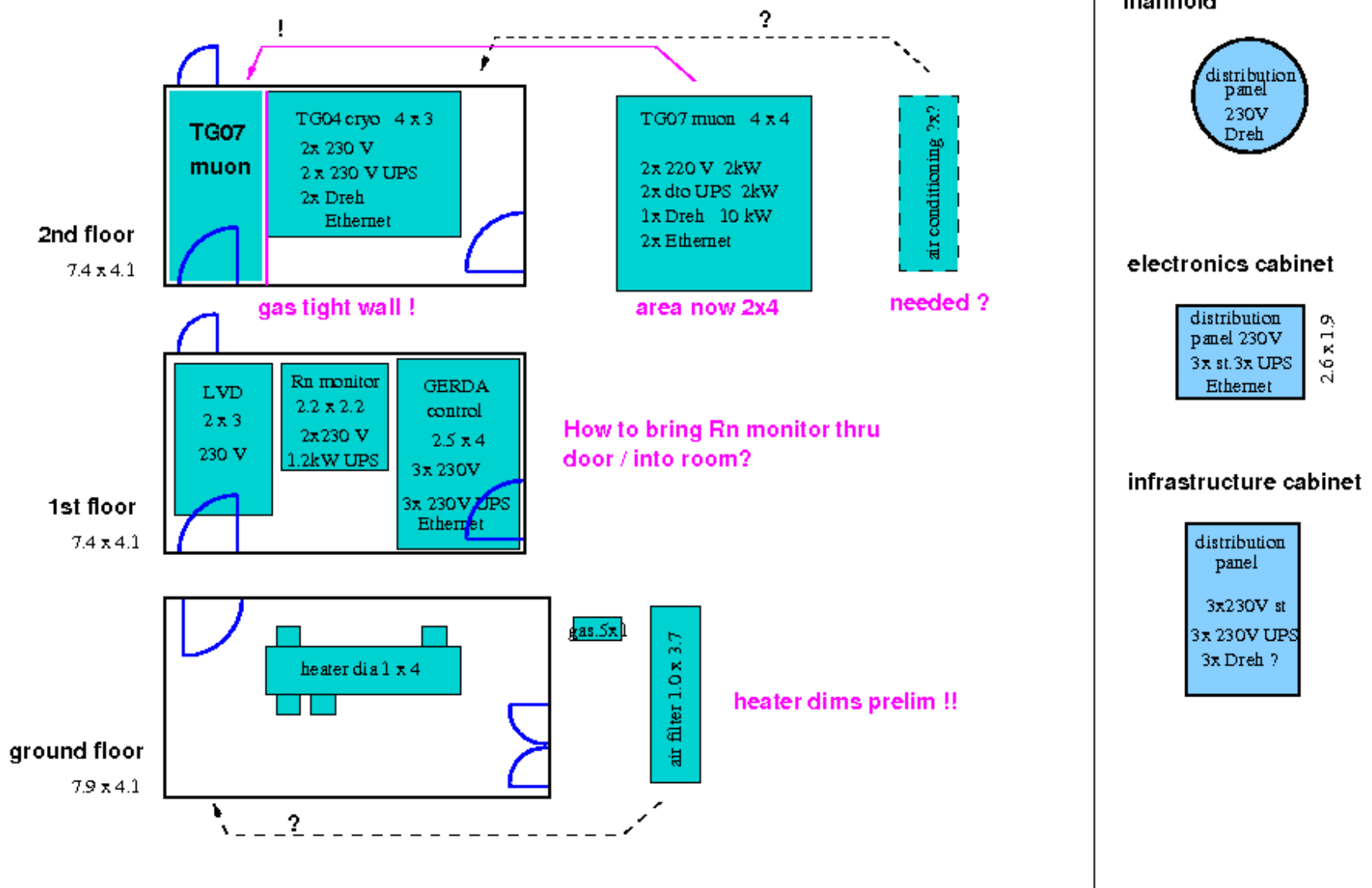
electronics cabinet



infrastructure cabinet

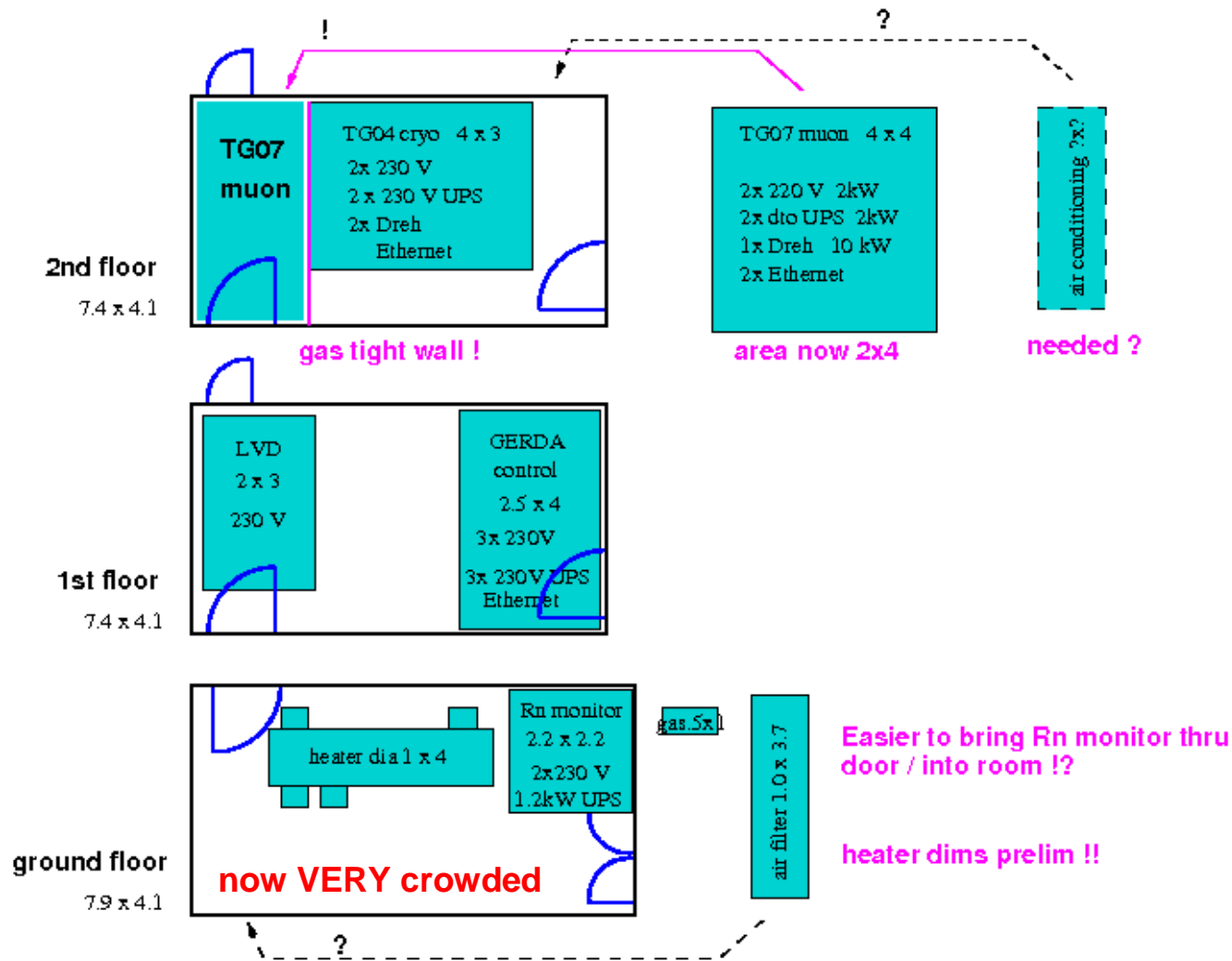


floorplan almost fixed

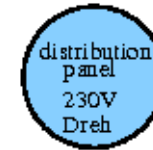


floorplan

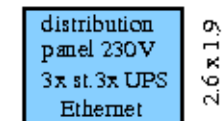
alternative?



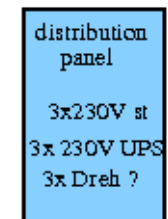
manifold



electronics cabinet

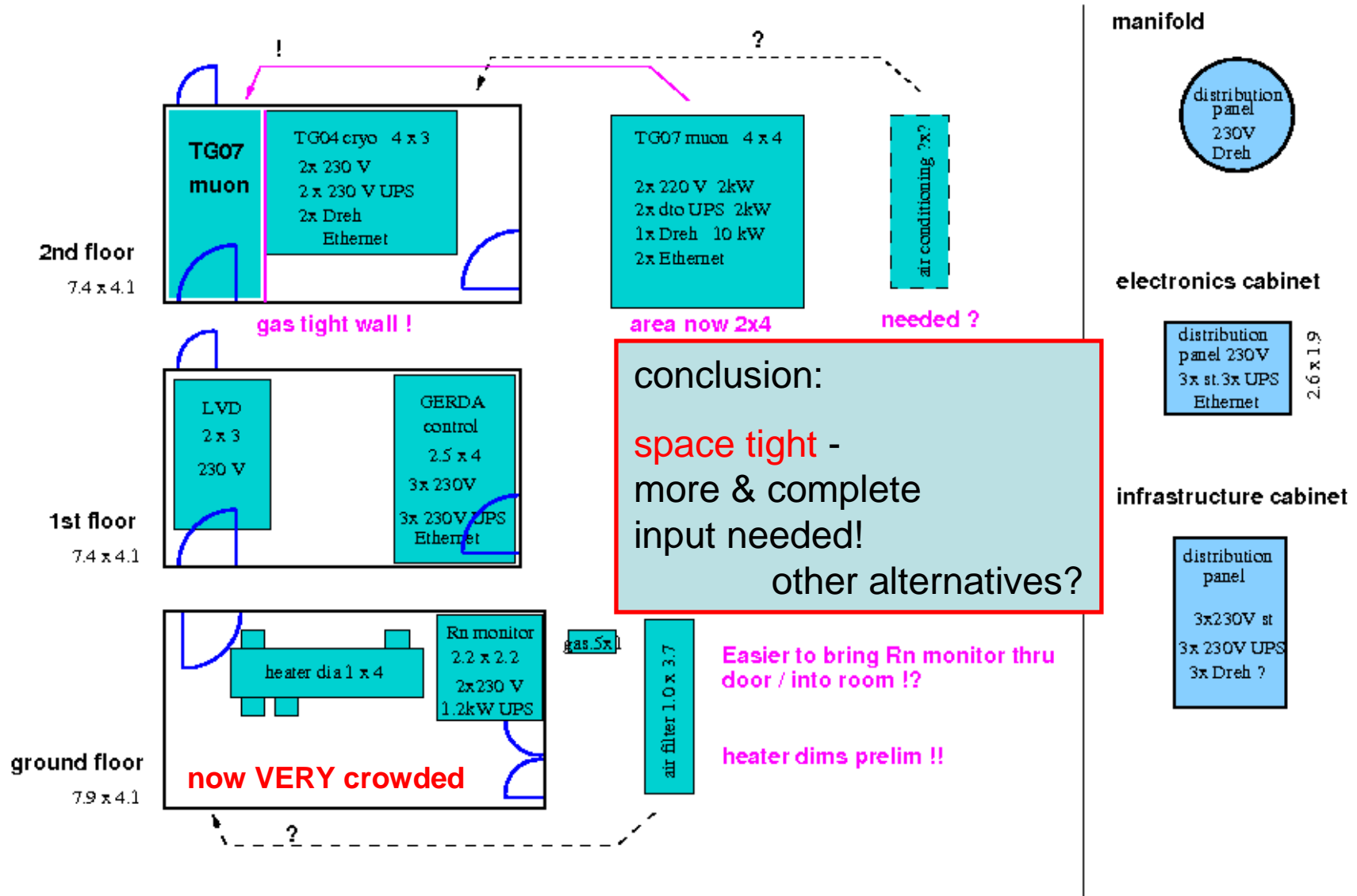


infrastructure cabinet



floorplan

alternative?



conclusion:

space tight -
more & complete
input needed!
other alternatives?

e.g.:

- Rn monitor in 2nd floor?
- Rn monitor in penthouse (>100m²) ?
- Heater into edge of WT enclosure?
-

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GERDA bldg – floorplan

Safety devices

Schedule

Safety Devices in GERDA Bldg

Which type?

- ▶ those which are maintained by LNGS
(see next page)

Where? How many?



- **Oxygen monitor**

Dräger Polytron 7000 (~1.7k)
> up to 8 Transmitters on one line

- **Smoke detector**

Notifier model NN (0.4k)

- **Emergency escape breathing apparatus**

Dräger saver CF15 (~0.5k)
> provides for 15' 'constant flow' of breathing air
> no service within a period of 10 years
> fully approved

- **Fire extinguisher**



safety devices

where? how many?

	Oxygen monitor	smoke detector	breathing apparatus	fire exting.
penthouse	1 /	1 /	2 /	1 / 2
manifold	1 /	1 /		
2 nd floor	1 / 2	1 /	1 /	1 / 2
1 st floor	1 /	1 /	1 /	1 / 2
ground floor	1 /	1 /	1-3 /	1 / 2
	<hr/>	<hr/>	<hr/>	<hr/>
	5 /	5 /	7 /	4 / 8

minimum / optimum number of devices

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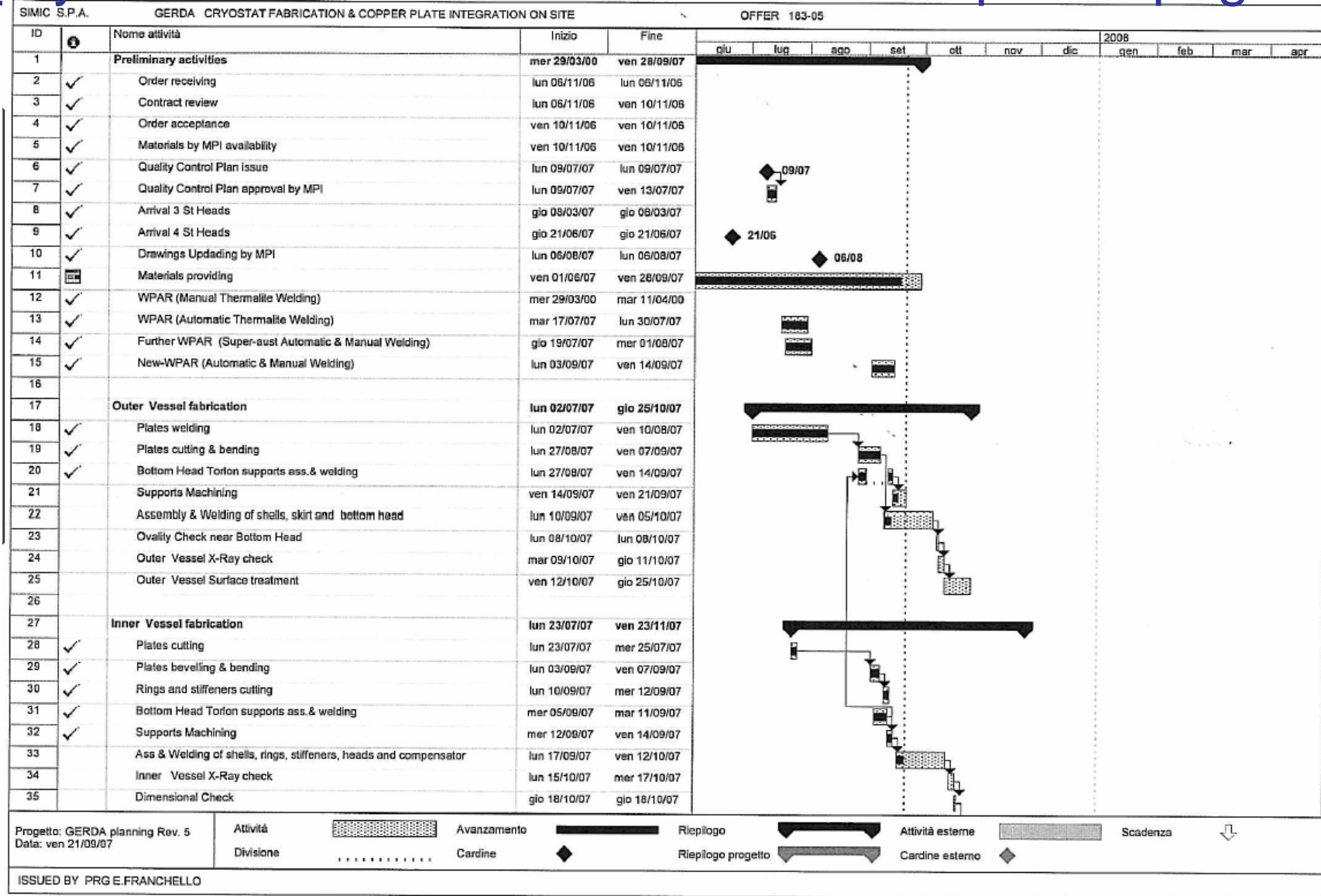
TG04 Schedule

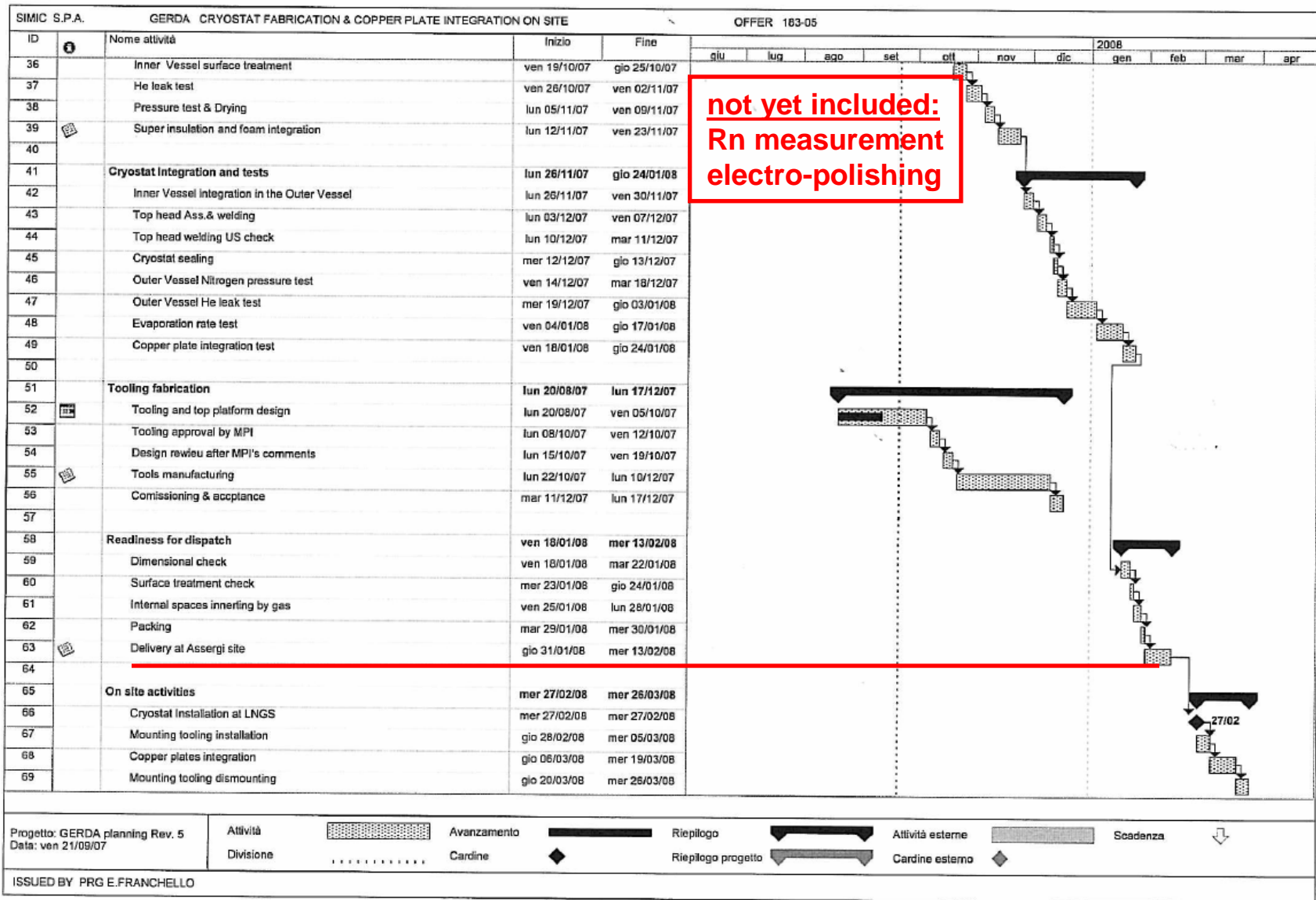
- cryostat only -

(cryogenic infrastructure to be installed
in parallel with penthouse / lock)

cryostat schedule

rev5 of 21 Sep 07 – page 1/2





cryostat schedule

Q: Rn measurement? YES!
 Q: electro-polishing? y/n



questions

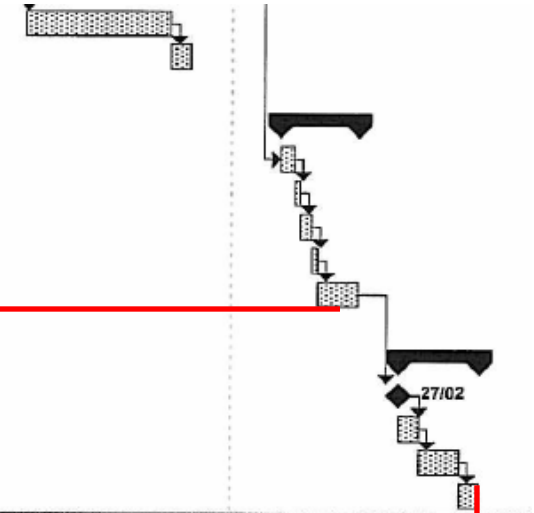
Tools manufacturing	lun 22/10/07	lun 10/12/07
Comissioning & acceptance	mar 11/12/07	lun 17/12/07
Readiness for dispatch	ven 18/01/08	mer 13/02/08
Dimensional check	ven 18/01/08	mar 22/01/08
Surface treatment check	mer 23/01/08	gio 24/01/08
Internal spaces innerling by gas	ven 25/01/08	lun 28/01/08
Packing	mar 29/01/08	mer 30/01/08
Delivery at Assergi site	gio 31/01/08	mer 13/02/08
gap of 2 weeks		
On site activities	mer 27/02/08	mer 26/03/08
Cryostat installation at LNGS	mer 27/02/08	mer 27/02/08
Mounting tooling installation	gio 28/02/08	mer 05/03/08
Copper plates integration	gio 06/03/08	mer 19/03/08
Mounting tooling dismounting	gio 20/03/08	mer 26/03/08

1 week

2 weeks

1 week

is in fact week of Eastern !



26 mar 08

Q: Which tests are needed after cryostat's delivery in Hall A ?

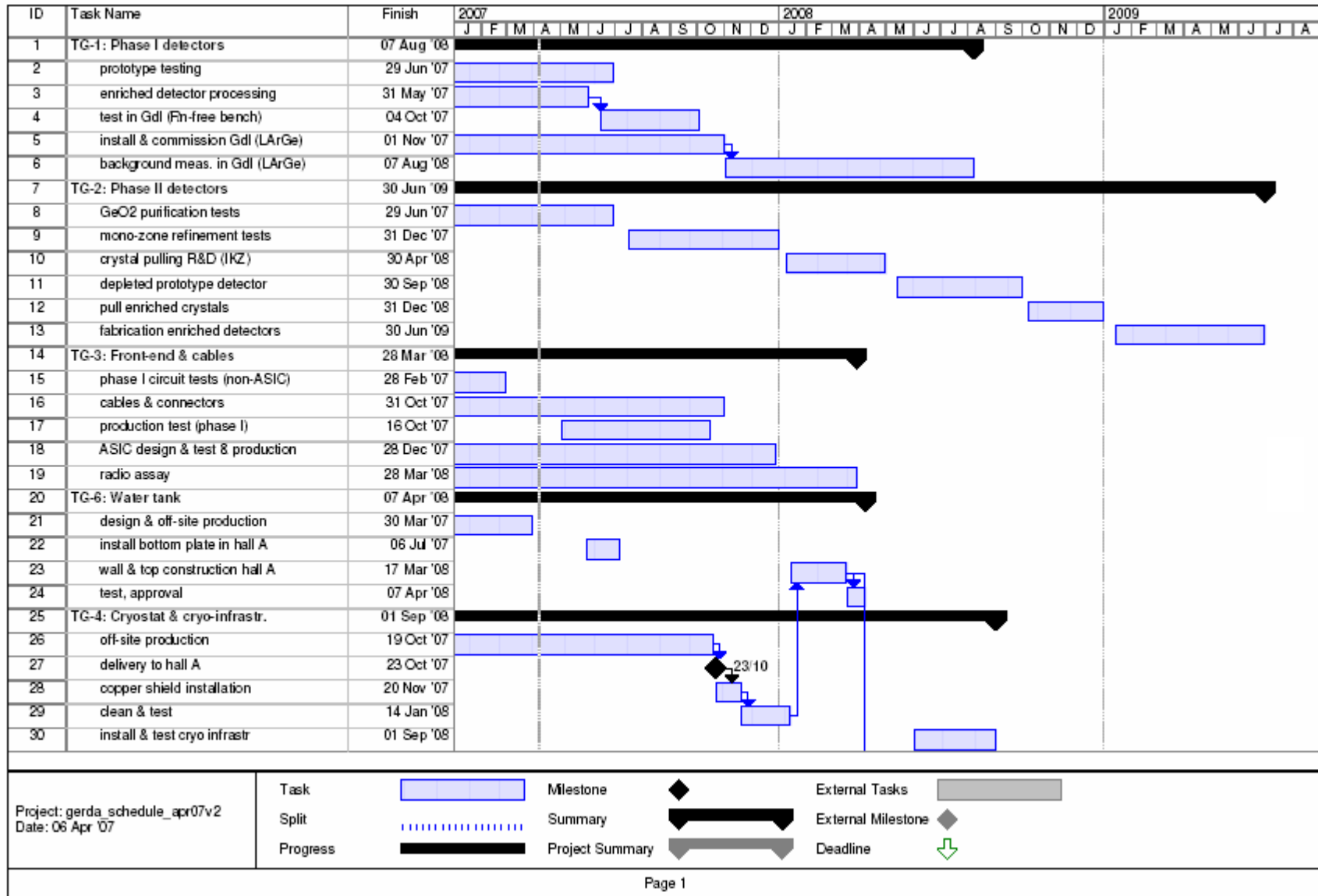
- He leak test - YES!
- evaporation test - done at SIMIC! Repeat it?
- pressure test - NO?
- Rn emanation test - already done at SIMIC ?

Q: Should they be done before or after Cu shield installation?

Q: Should Cu shield be installed immediately after delivery?

GERDA Schedule as of April 2007

GERDA schedule 1/2



Sequential works in Hall A:

cryostat delivered to Hall A	23 oct 07	→	13 mar 08	+6 mo
copper shield installed	1	....	20 nov 07	
cleaned & tested	2	....	14 jan 08	
WT installed	2	....	17 mar 08	
cleaned & tested	0.5	....	07 apr 08	
GERDA bldg erected	2	....	30 may 08	
clean room floor installed	1	....	01 jul 08	
lock installed	6	....	19 dec 08	
cleaned & tested	1	....	30 jan 09	
Rn emanation measurements	0.5	....	13 feb 09	
argon fill	1	....	13 mar 09	→ 13 sep 09 !???
	↑			6 mo
	months			

Can we catch up?
Where?