

# GIF completion status

Adrian Fabich, EN-MEF-LE  
on behalf of the GIF project team  
GIF users meeting, 14<sup>th</sup> January 2015



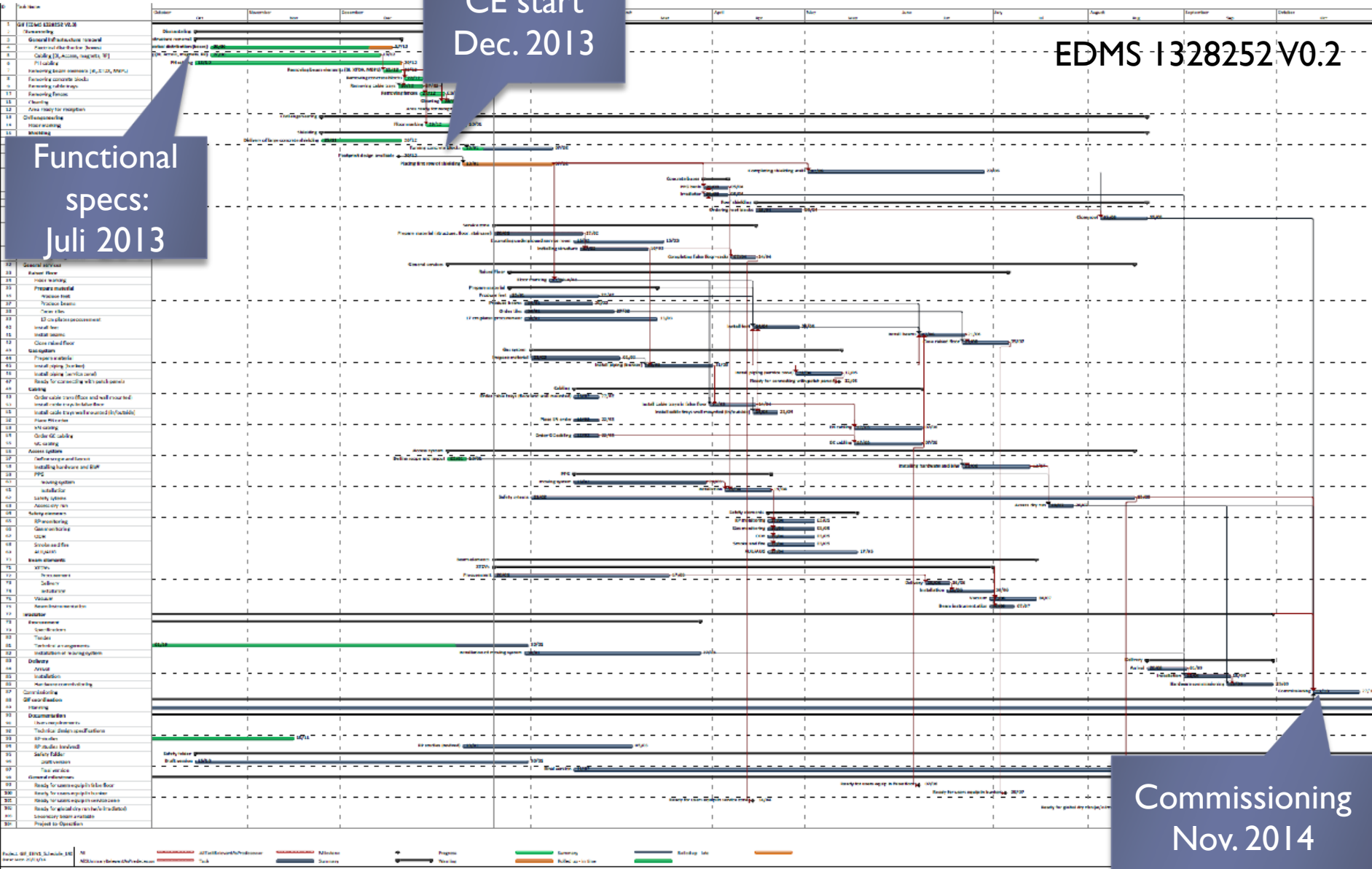
# Schedule

EDMS I328252 V0.2

CE start  
Dec. 2013

Functional  
specs:  
Juli 2013

Commissioning  
Nov. 2014



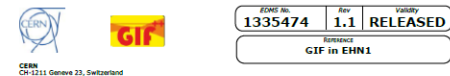
# Services available

- ▶ **Zones of bunker, preparation and service area**
- ▶ **Gas distribution**
  - ▶ Gas supply – see Ernesto's talk
- ▶ **Electricity**
  - ▶ Gas racks gradually connected with installation
- ▶ **Safety systems**
  - ▶ Access safety system
  - ▶ RP monitoring
  - ▶ Gas and fire detection

# Project documentation

- ▶ Documentation: <http://cern.ch/gifpp>
- ▶ EDMS: <https://edms.cern.ch/nav/P:CERN-0000088840:V0>
  - ▶ Specifications, drawings, technical notes ...
- ▶ Meeting (notes):  
<https://indico.cern.ch/categoryDisplay.py?categId=5229>

- ▶ Safety documentation
  - ▶ EDMS I335474
- ▶ Tripartite authorisation
  - ▶ Received 9. Oct. 2014



Safety Documentation		
<b>GIF in EHN1 - Functional Design</b>		
<i>Abstract</i> GIF (Gamma Irradiation Facility) in the North Area will replace the existing GIF of the West Area. GIF will meet the demand for higher photon radiation fields and will restore the possibility of a simultaneous, secondary muon beam. This document describes the functional design listing the design documents (drawings, lists, risk assessments).		
<i>Prepared by :</i> A. Fabich - EN/MEF	<i>Checked by :</i> D. Forkel-Wirth - DGS/RP M. Jaekel - PH/DT F. Ravotti - PH/DT C. Theis - DGS/RP	<i>Approved by :</i> I. Eftymiopoulos - EN/MEF

# GIF radiation zone

## The irradiation zone hosting the irradiator

- ▶ is a controlled area (PPE154).
- ▶ inside a supervised area (EHNI).

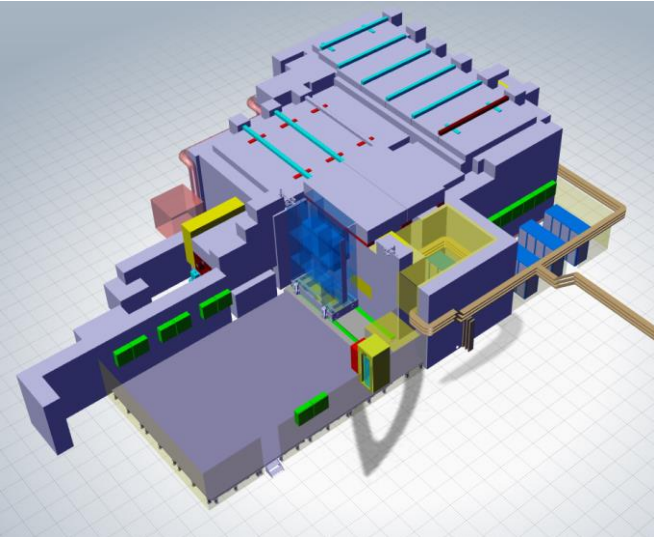
Film badge mandatory

- ▶ No risk of activation due to low intensities of secondary beam
- ▶ Presence of high intensity photon source requires additional precautions due to the prompt radiation levels:
  - ▶ Extended shielding
  - ▶ Entrance chicanes
  - ▶ Dedicated monitoring

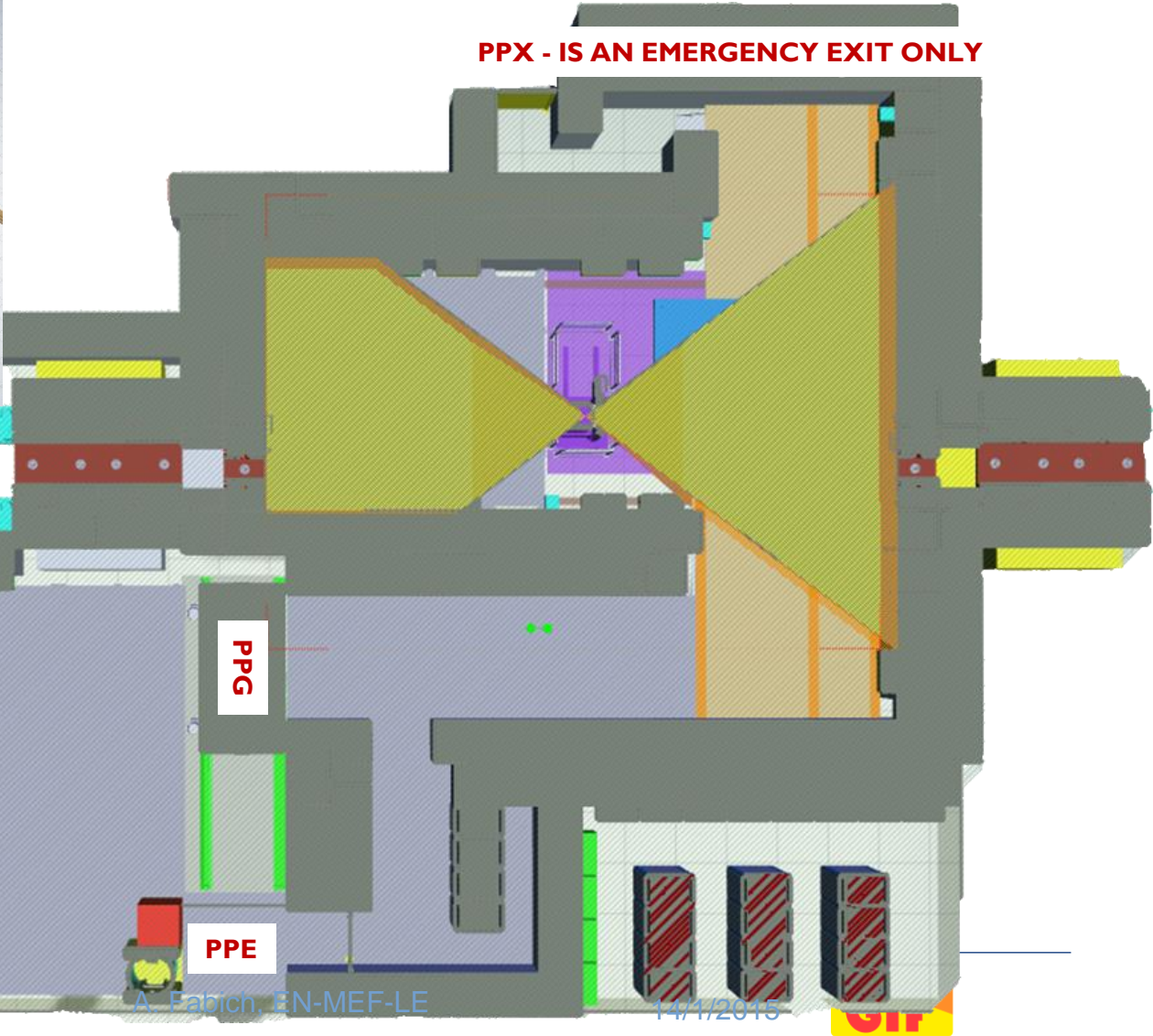


Modifications to the shielding concept are only to be authorised by the TSO.

# GIF++ layout



secondary beam  
→



# Operational safety procedures

## Standard procedures of EHN1

### Access

- ▶ Similar to any other beam zone
  - ▶ Possible for anyone with film badge
  - ▶ Based on EHN1 standard equipment and layout
  - ▶ Installation works in beam areas requires PPE (helmet, safety shoes)

### Patrol procedure

- ▶ H4 beam line patrol right – training authorisation required
- ▶ 2 patrol buttons

### Manual veto

- ▶ Procedural safety from the CCC
- ▶ GIF source is included in the safety chain of zone H4C

**N.B.:** An intrusion (forcing the door) to an active beam zone causes a primary interlock stopping the SPS.



- ▶ 13 parasitic and 3 dedicated weeks out of 29 weeks of total proton beam time in 2015

## SPS user schedule for 2015



schedule issue date: 13-Jan-2015

Version: 0.0 █ LHC Exp. █ PS/SPS Exp. █ INT Exp. █ Other Exp.

		Apr			Mai				Jun				Jul				Aug				Sep			Oct			Nov										
Week		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47				
Machine																																					
North Area	T2 - H2	NA Stop 4									CMS GRPC 7	RE29 (DAMPE) 14	CMS ECAL 7	Calice (Ahcal) 14	SHIP CALO 7	CMS Upgrade phase1 14	CMS Upgrade phase2 14	CREAM 7	NUCLEON 7		NA61 (SHINE) 56						CMS ECAL 12										
	T2 - H4	NA Stop 4	NA63 16	CMS ECAL 12			RD51 (+GIF) 16	CMS ECAL 7	ALICE ITS 7	RD51 (+GIF) 14	CaloCube 7	RE22 (PANDA MVD) 7	LHCf 14	GIF 21				HOTAGCHANNEL 7	P348 14	CMS ECAL 21	RD51 (+GIF) 14	NA62 138	NA58 ECAL 7	HERD 5													
	T4 - H6	NA Stop 4	Calice (Sdhcal) 16	CERF 7	Clic pix 5		RE20 (BELLE II) 14	CMS Outer Tracker 7	ATLAS ITK 21	ATLAS SolPix 7	Monopix 7	RD42 7	Clic pix 7	Calice (Ahcal) 14	RD42 7	Clic pix 7	ATLAS ITK 21	CERF 7	RD42 7	Clic pix 7	ALICE FOCAL 14	CMS Outer Tracker 12															
	T4 - H8	NA Stop 4	UA9 16	LHCb 12		ATLAS TRT 7	LHCb 7	ALICE FOCAL 7	ATLAS RPC 7	ATLAS NSW 7	LHCb 21	UA9 7	TOTEM 7	RD52 (DREAM) 14	ATLAS NSW 19		LHCb 20	ATLAS Tilecal 14	RD52 (DREAM) 14	LHCb 12																	
	T4 - K12							NA Setup 7																													
	T6 - M2	NA Stop 4	NA58 (COMPASS) 203																																		

For further information contact the PS/SPS-Coordinator. Email: Sps.Coordinator@cern.ch, Tel: +41 76 487 3845.



14/1/2015

A. Fabich, EN-MEF-LE

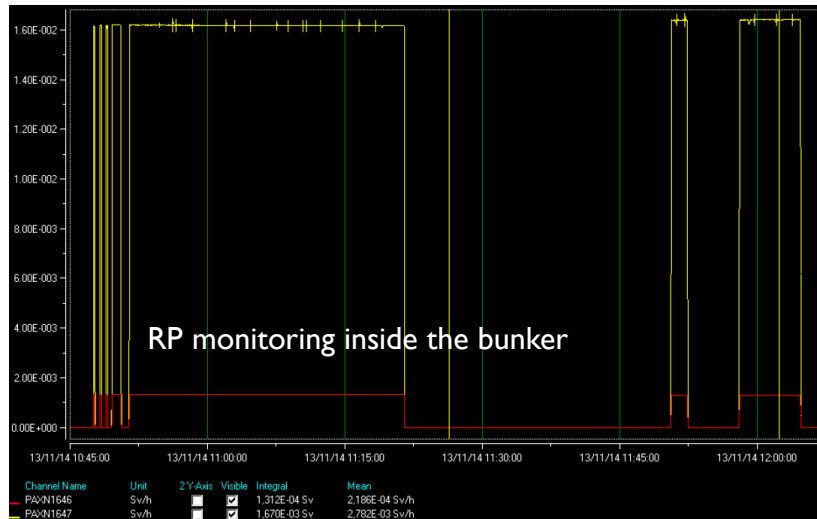




# GIF is operational

## Upgrade installations during 2015

- ▶ Installation of full fledged gas detection system
- ▶ Supplying demin. water and compressed air to the bunker
- ▶ Installation of XTDVs (mobile dumps)
  - ▶ Increasing the flexibility in swapping with other users



PH-DT  
Detector Technologies



ENGINEERING  
DEPARTMENT