

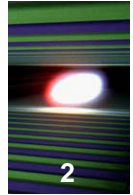
SASE3 Experiments

Personnel interlock Commissioning

WP-38

Brunhilde Racky

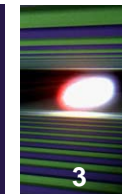
XFEL Technical Meeting XHEXP1, 9. March 2018



- WPL
 - Brunhilde Racky, Michael Dressel (concepts; with SRP and D3)

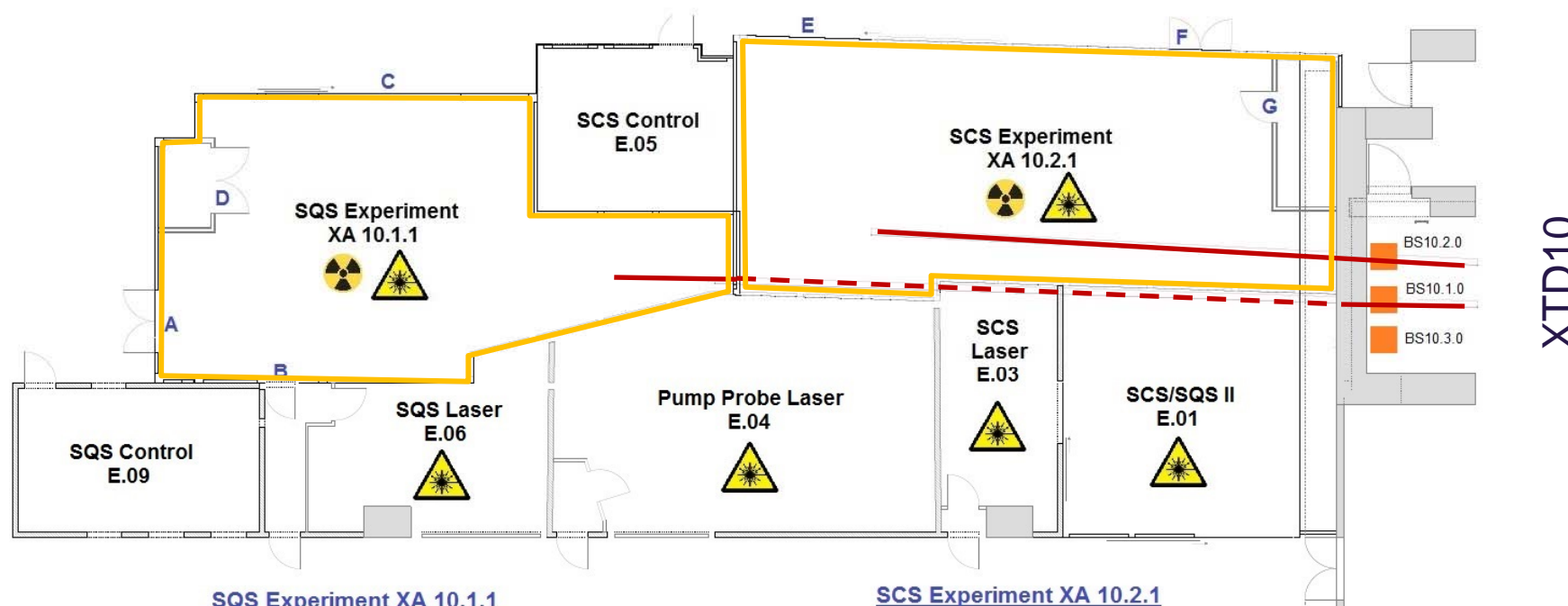
- SASE Interlock
 - Andreas Rathjen (Technical Leader)
 - Alessandro Kropmanns

- DACHS
 - Sabine Brinker, Carsten Kluth (concepts; with SRP, TS)
 - Dennis Kruse (Hardware)



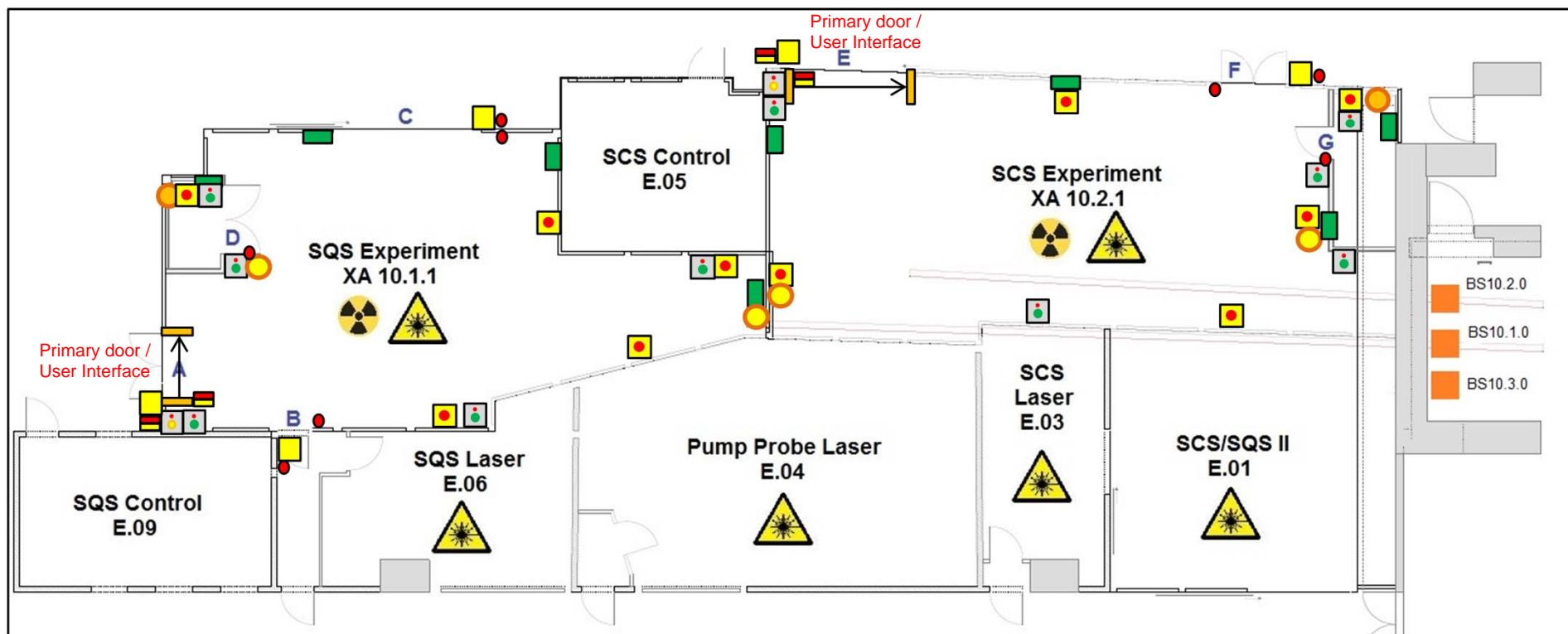
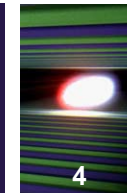
XHEXP 1 SASE 3

Eric Boyd, 30.1.2017



- A. 10.1.1.D1 Hinged Double Door (Primary)
- B. 10.1.1.D2 Hinged Door
- C. 10.1.1.D3 Telescoping Motorized Sliding Door
- D. 10.1.1.D4 Pump Room Hinged Double Door

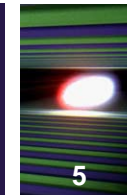
- E. 10.2.1.D1 Motorized Sliding Door (Primary) with built in manual sliding door (Laser)
- F. 10.2.1.D2 Hinged Double Door
- G. 10.2.1.D3 Pump Room Hinged Door



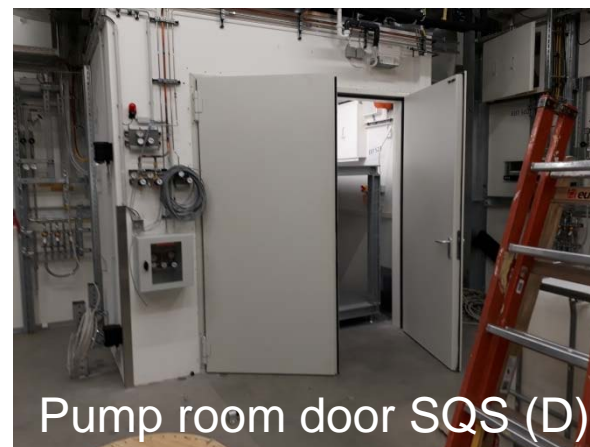
- | | | |
|---------------|-------------------------|-------------------------------|
| Warning lamp | Door status lamp | Door status lamp primary door |
| Emergency off | Search/ set button | Light barrier |
| loudspeaker | Radiation warning panel | Button „Mute light barrier“ |

Alessandro Kropmanns
-MPS-
2.11.2017

Some Installations



Primary door SQS (A)



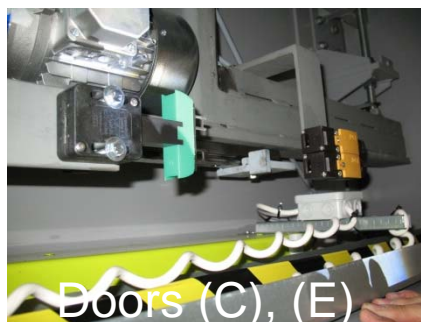
Pump room door SQS (D)



Primary door SCS (E)

Motorized doors Fa. Alien:

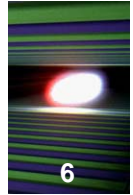
- Wrong switch type
- No mechanical redundancy
- Wrong cable (door E)



Doors (C), (E)



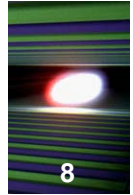
Central PLC units
(Balcony room)



- Frontend Beamshutters, Absorbers (F. Yang)
 - XFEL part ready
 - Safety signals of contact switches already active in accelerator interlock
 - Simple status signals provided to M. Domnach
 - To be done (April shutdown):
 - Change of power supply (WP38)
 - Installation of key switches in the tunnel (WP38)
- Technical Interlock (Advanced Electronics, P.Gessler)
 - Cables missing (XFEL)
 - Contacts forseen (WP38)



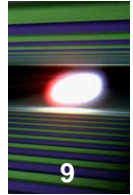
- Laser interlock SQS, SCS (Company Lasermet)
 - Output signals for Lasermet provided (WP38):
 - Beam operation permission
 - Emergency off
 - Chicane key
 - Lock doors!
 - Input signals from Lasermet missing (Lasermet):
 - Doors locked
 - Laser in operation (to disable hutch search)
 - Information of interface design missing (Lasermet)
 - Magnets to lock hinged doors missing (Lasermet)



- Motorized sliding doors (Fa. A. Lien)
 - Wrong (but safe) switches are accepted (WP38)
 - Cable has to be replaced (G. Wellenreuther, Fa. Wille)
 - Mechanical redundancy: under construction (A. Lien)

- DACHS (SRP, TS)
 - Local installations ready to be tested (WP38)
 - Main cable missing (TS, Fa. Actemium)
 - Definition of access rights and conditions (SRP)

- Control system (XFEL, S. Hauff)
 - TINE gateway provided (WP38)



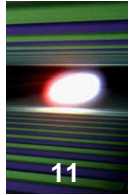
- Interlock contacts provided for other purposes
 - Emergency Off SCS, SQS
 - Beam operation permission SCS, SQS

External interface box

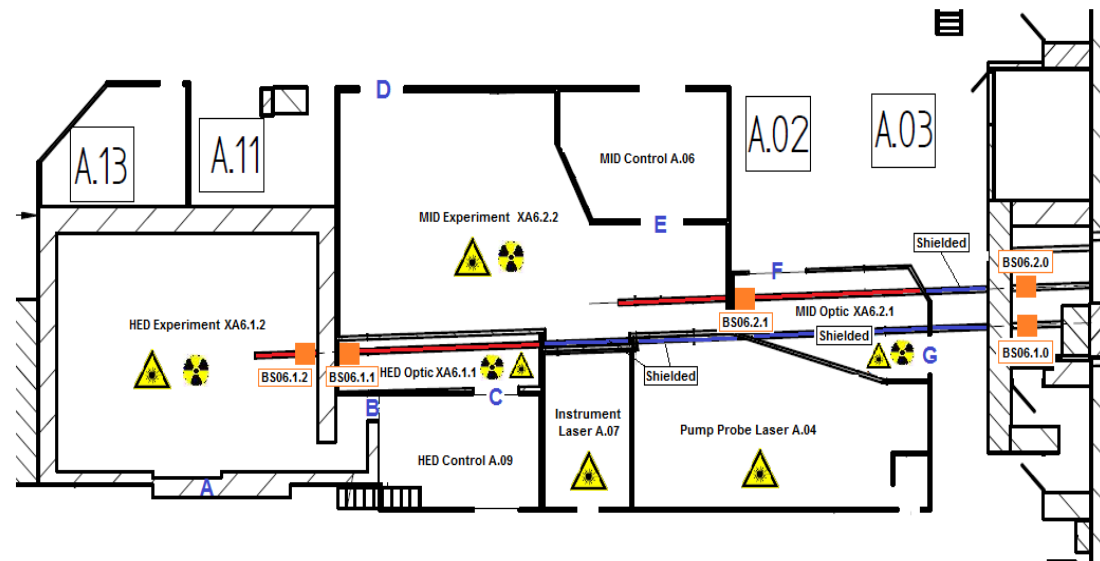




- Now - 2.4. Interlock system commissioning
 - areas occasional closed for short periods of time
- 23.3: External interface contributions ready
 - Lasermet, DACHS cable, motorized doors, other requests
- 4.4. SCS closed
 - commissioning with shutter/ absorber opening
- 5.4. SQS closed
 - commissioning with shutter/absorber opening
- 6.4. SCS and SQS closed
 - interlock commissioning with shutter opening
- 11.4. Rehearsal with D3, SRP: **Everything Ready!**
- 18.4. Interlock test with TÜV (§ 66, StrISchV)



- 5.7.2018 Interlock test (§ 66) SASE2, SASE1
 - SASE2 without HED Laser



- SASE1 with new safety code
 - ➔ What about SPB- shutter BS09.2.1 (now locked open) ???

- Thank you for your attention.