DESY Access Control System.

Deutsches Elektronen-Synchrotron
Mitglied der Helmholtz-Gemeinschaft

Maximilian von Mustermann

Musterinstitut

Karten-Nr.: 123456789

Michael Bieler
DESY Access Control System
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DESY

DESY's Accelerators
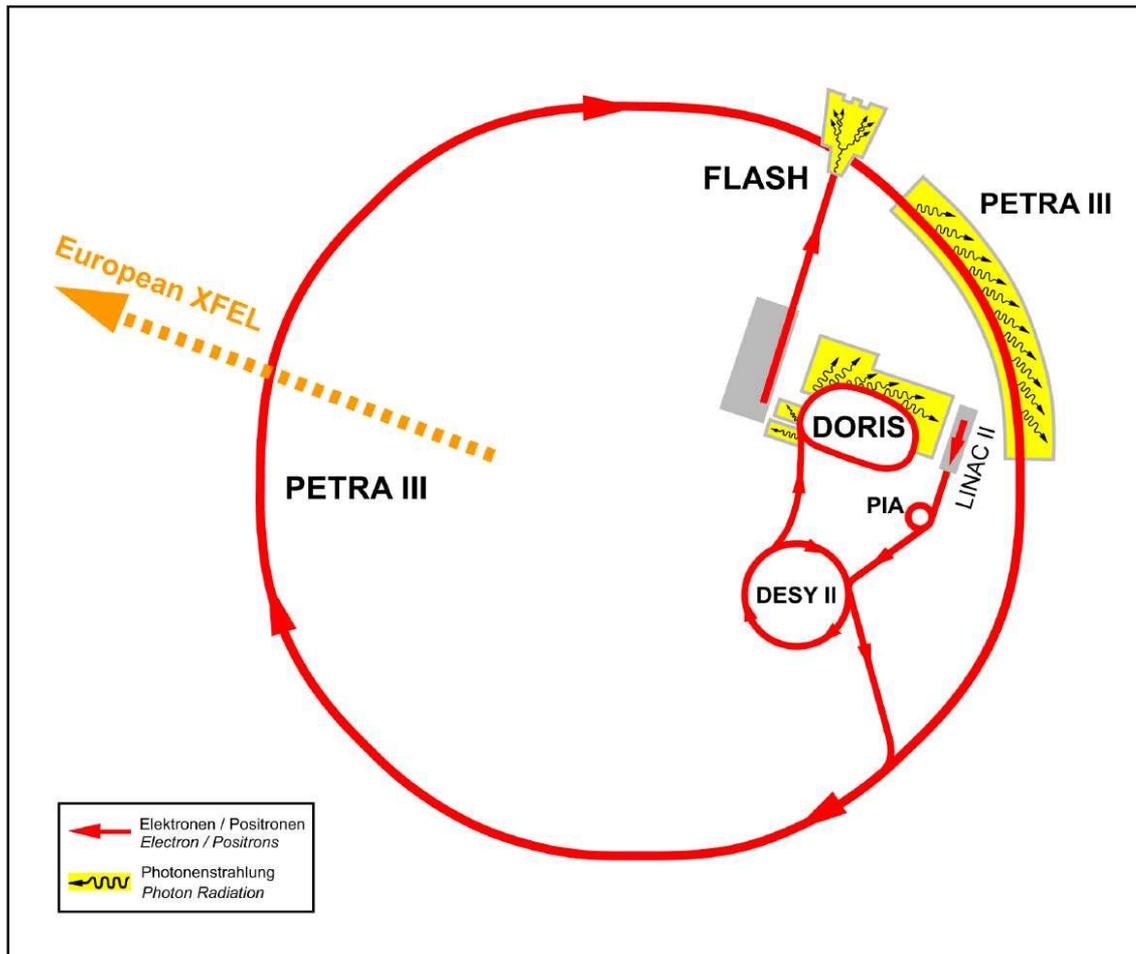
> 6 different accelerators

> 30 interlock doors

> 1 control room

The DESY Access Control System

The access control system consists of

> an access card (RF-ID) for every employee

> a personnel data base

> a data base for access rights

> a central server for the system

> local controllers

> card readers at doors etc.

The Access Control System

If a card is read at a card reader

> the access right of this card at this time at this door is checked in the data base

> the blue light in the card reader turns

- red if the card is invalid at this door

- green if the card is valid at this door

If the light turns green

> a relay in the card reader closes and activates for example a door release buzzer.

The Access Control System

The access right depends on different criteria:

> For the library door:

- library user

> For an accelerator door:

- general radiation training

- general safety training

- local radiation training for this area

- local safety training for this area

The Personnel Interlock System

Every entrance door to an accelerator

> is yellow

> has a yellow radiation sign (illuminated when the beam permit is given)

> has a red sign 'Interlock set' (illuminated when the interlock is set)

> has an intercom station and a camera

> is equipped with 2 door contacts

> does not have a door handle

> has a card reader

> has a key box

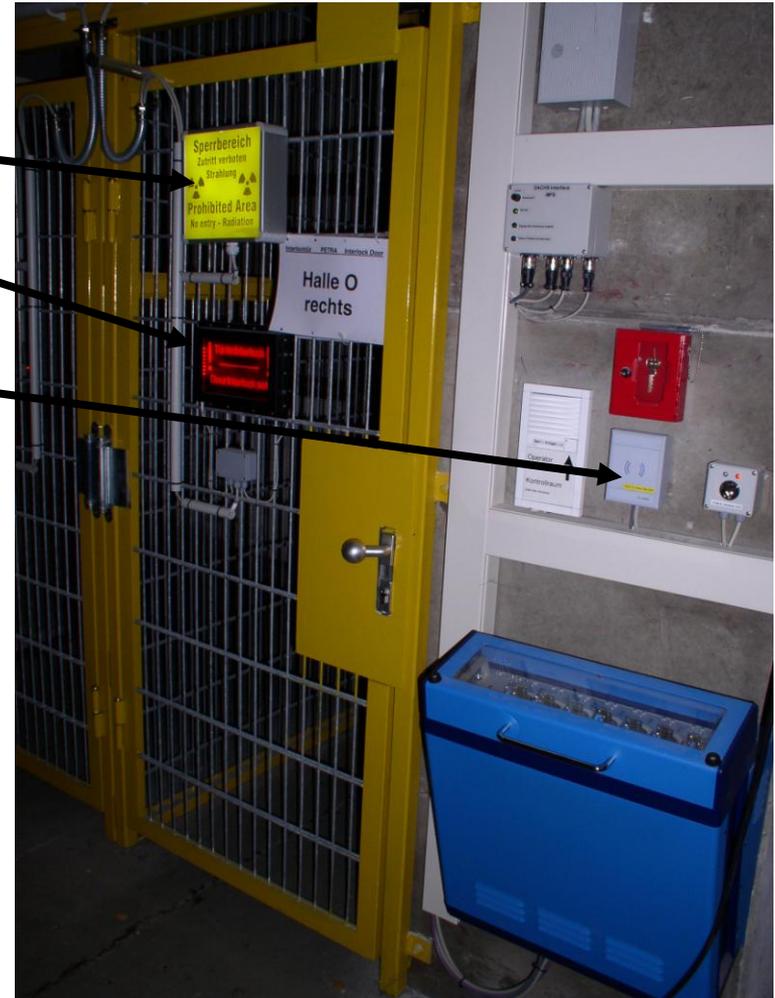# The Personnel Interlock System

During shutdown periods

> the yellow radiation sign is off

> the red sign 'Interlock set' is off

> the card reader activates the door release buzzer if a valid card is read.
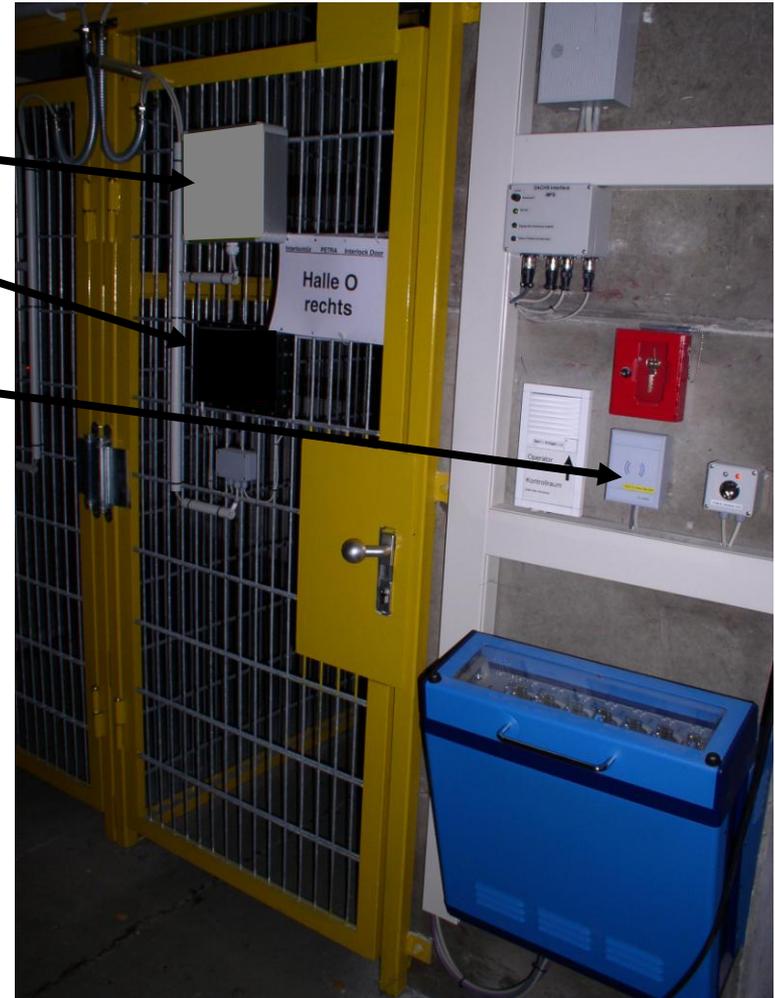
The Personnel Interlock System

During operations periods

> the yellow radiation sign is on

> the red sign 'Interlock set' is on

> the card reader is not connected to the door release buzzer.

The Personnel Interlock System

Temporary Access

> The area is searched and the interlock is set.

> A small number of people want to enter the area for a short time without breaking the interlock.

> No search is necessary after the temporary access.
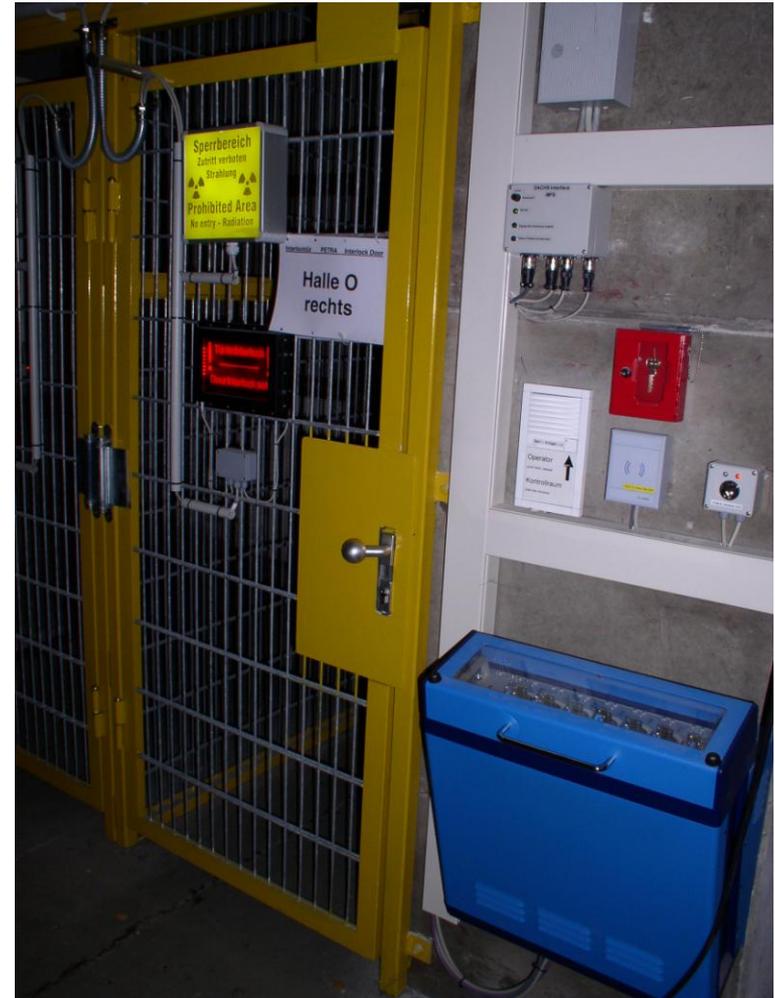
Temporary Access Step by Step:

1 People call the control room through the intercom

2 The beam is dumped, beam permission taken away, the yellow light goes off.

3 The access cards are read by the card reader to check the access rights of the people at this door at this time.

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4 The card reader transfers the names and the access rights to the control room, the names are written down in a paper log.

The Personnel Interlock System

Temporary Access Step by Step:

5 The operator releases one key per person and makes sure that every person takes one key.

6 The operator presses a button to bypass the door contacts and to activate the door release buzzer. The red light goes off.

7 The people open the door, go in and close it again.

8 The operator releases the button, the red light goes on, the door contacts are active again.
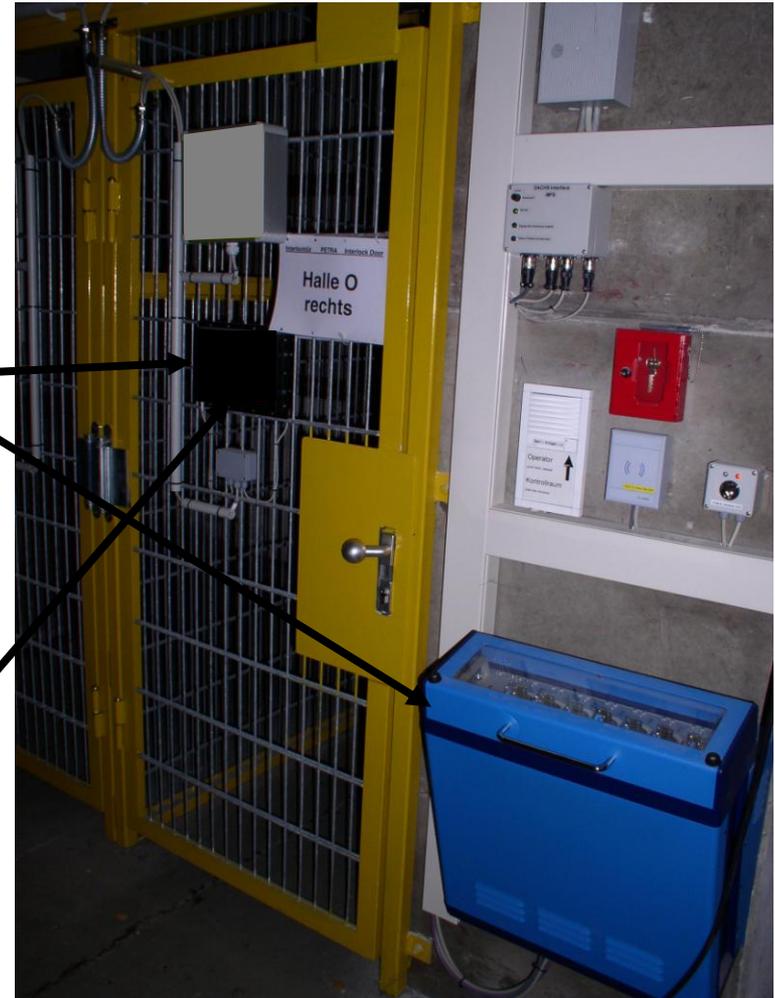
The Personnel Interlock System

Temporary Access Step by Step:

9 The people come back and call the control room from the intercom at the inner side of the door.

10 The operator presses a button to bypass the door contacts and to activate the door release buzzer. The red light goes off.

11 The people open the door, go out and close it again.

12 The operator releases the button, the red light goes on, the door contacts are active again.

The Personnel Interlock System
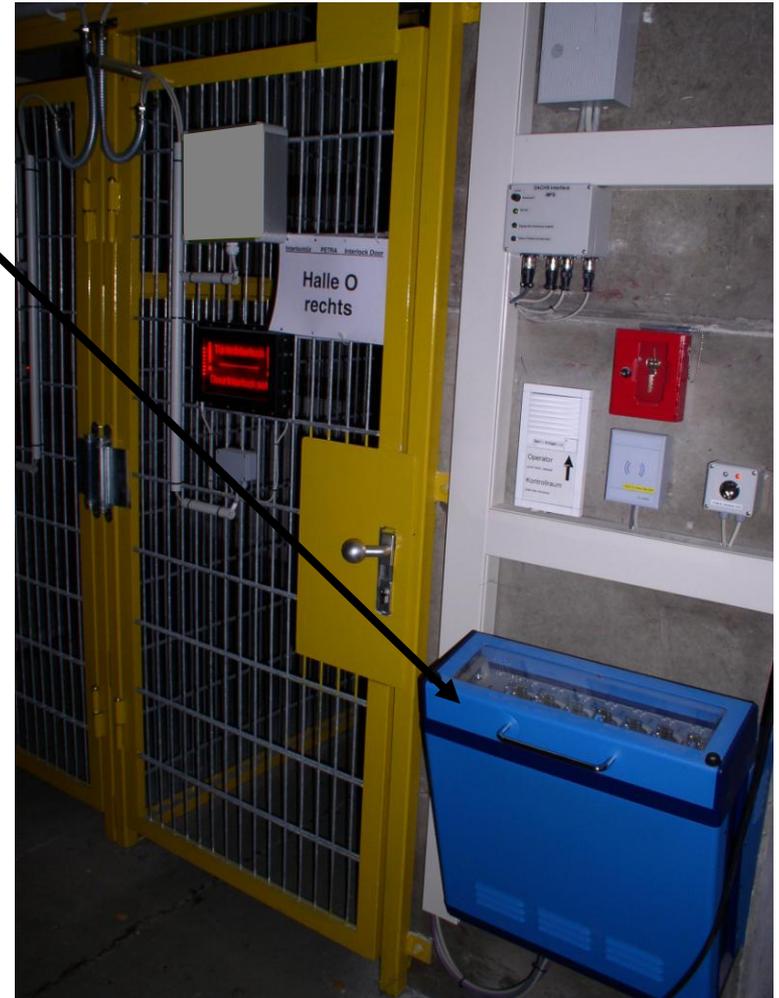
Temporary Access Step by Step:

13 The people give back the keys.

14 The operator writes the names in the paper log.

15 The beam warning is given.

16 The beam permission is given.

17 Injection!

Summary

> The access control system checks access rights and opens doors.

> The personnel interlock system makes sure that nobody is inside an active accelerator.

> Both systems are connected to

- check the access rights and open the door through the access control system if the interlock is not set

- check the access rights and transfer names before a temporary access

Acknowledgement

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Thanks to all of them!