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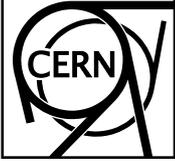
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REFERENCE

SBA – North Area

EN Engineering Department

Date: 2011-04-28

PROCEDURE

HOW TO USE AN ACCESS POINT TO SPS SECONDARY BEAM AREAS

FOR ACCESS TO SPS EXPERIMENTAL AREAS

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HISTORY OF CHANGES

REV. NO.	DATE	PAGES	DESCRIPTIONS OF THE CHANGES
0.0	2011-04-04	-	- Draft.
1.1	2011-04-28	-	- Few modifications taking into account suggestions of Lau Gatignon, James Ridewood, Magali Gruwe, Jessica Navarria.
1.2	2011-06-01	-	- Add a pdf version.
1.3	2011-06-01	p6	- Addition: putting the key in the lock indicated by the flashing green arrow (on the key distributor)
1.4	2011-06-15	p6	- One person , one key in red at the beginning of 3.1.3
1.5	2011-06-28	-	- IE: major text reshufling

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1. APPLICATION

This document describes how to use an access point for the SPS North Area Experimental Areas. It explains the necessary steps and manoeuvres required getting an access to enter the experimental area and those required ending an access and setting the access point to beam mode. Should be noted that the possibility to switch an access point to a given state depends on the status of the safety elements like TAXs, beam dumps, magnets, etc. generally noted as EIS – Element Important pour la Securite.

The rules to be obeyed while accessing a beam area are described in a separate document – EDMS 1138824.

Only users who have received specific training and who are authorized can switch an access point from FREE to KEY ACCESS or BEAM mode.

2. PRESENTATION OF AN ACCESS POINT

A beam area is delimited by fences and/or concrete walls. Access to a beam area is only allowed through special access doors, named **PPE** (Personnel Protection Entry), **PPG** (Personnel Protection Gate) and **PPX** (safety eXit). The main entrance point in the area is thorugh the PPE door, the other are used as escape doors and can be opened at all times from inside the area. In KEY ACCESS mode, they can be opened using the key obtained from the PPE distributor.

An example of a PPE door is shown in **Figure 1**. In this picture the 'CLOSED AREA' light diodes on the control panel are flashing and the 'BEAM' light is ON to show that the area is probably receiving beam:
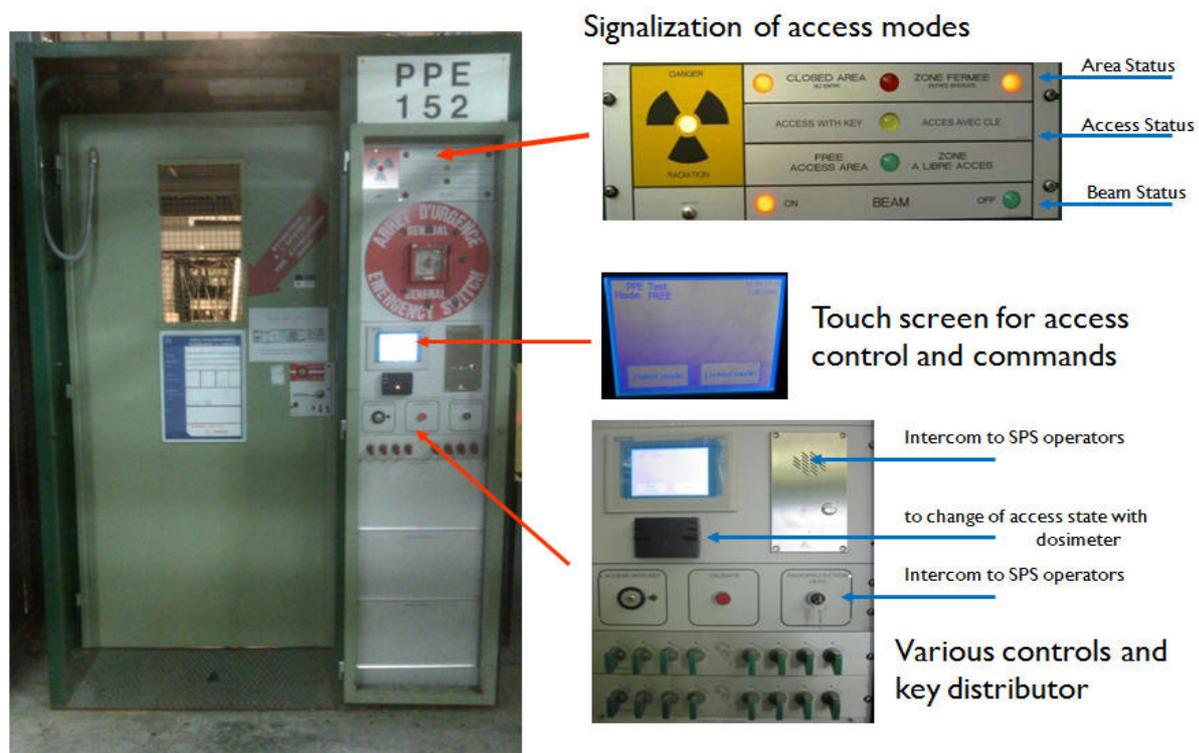
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Figure 1 — *PPE access point*

3. ACCESS MODES

There are four possible modes/states for an access point:

- **FREE** : where the access point is open and anyone can enter in the area

- **KEY ACCESS** : where access to the area is possible and everyone entering takes a key to declare his presence and avoid someone switching the beam ON while people are present in the area

- **CLOSED** : where no access is allows and beam can be present

- **LOCKED** : where no access is allowed but no beam can be switched ON. This is a special mode used to limit access to an area for a specific reason

- **PATROL** : this is a transient mode between FREE to KEY ACCESS during the Search and Secure Procedure, i.e. when the area is patrolled by authorized users to verify that all persons have exited the area which can be switched to KEY ACCESS and then to CLOSED with beam.

Details of each mode and the actions in the access point are given in the next paragraphs.

3.1 'KEY ACCESS' MODE

This is the typical mode of an access point at the end of a patrol procedure or while in operations after switching the beam off for short accesses to the area.

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If an access point is in his mode, the light on the 'DANGER RADIATION' lights do not flash and the 'BEAM OFF' light comes on.

3.1.1 HOW TO GET A KEY

You can get a key by pressing the **'Key release'** on the touch screen. Take the key from the key distributor where a lamp lights up above (turn the key a quarter to the right and simply pull it out). The screen then indicates a Key is missing.

3.1.2 HOW TO ENTER THE AREA

Once you have a key you can enter the area by putting the key in the lock indicated by the flashing green arrow (on the key distributor) and open the door.
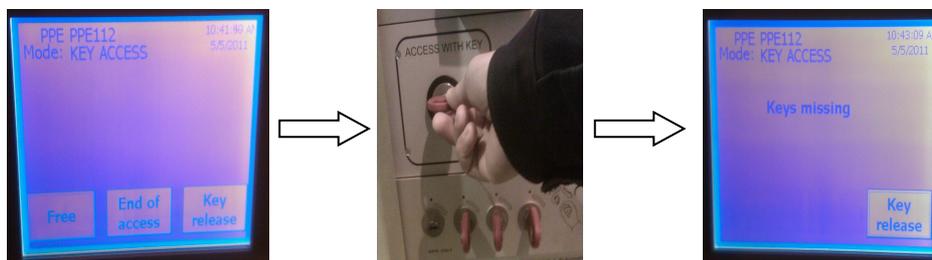
While turning the key, the light in the round button on top of the door handle will turn green, indicating the door can be opened to enter the area.

It is important to remember the rule: one person one key when entering an experimental area, to assure its safety. If more people than the number of keys available has to enter, the access point must be switched to FREE MODE.

When in the area, the key can open all other PPX or PPG doors.

Important notes:

- Do not push the Emergency Passage button above the door handle, except in cases of real emergency. If it is pushed, a patrol will have to be done (the lock will have to rearm) and this wastes a lot of time.

- Once you have entered the area **close the door behind you** and keep YOUR key in YOUR pocket, to guarantee YOUR safety.

- It is strictly forbidden to block an access door open. If a door remains open for a long time, the access point will automatically switch to FREE MODE as no safety can be guaranteed and many people may enter without a key.

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Emergency passage

Door handle

Light is green,
you can enter

Light is red,
you can't have an
access

Figure 2 — Detail of a PPE door lock.

3.1.3 HOW TO EXIT AN AREA

To exit an expérimental area through the PPE point you must press the small green button next to the PPE door.

You can alternatively exit from any PPX door and bring the keys back to the PPE door.
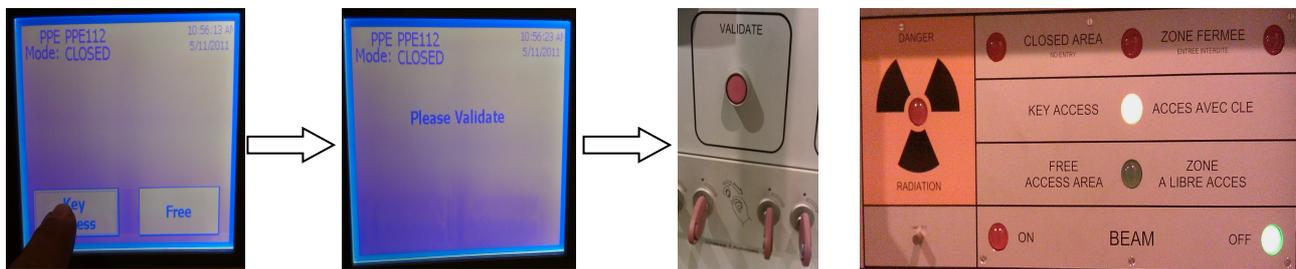
3.2 CLOSED to KEY ACCESS MODE

To switch an access point from the CLOSED to the KEY ACCESSS mode, the beam must be stopped and the area must be in SAFE mode with all the EIS elements (magnets, dumps, TAXs) put in the correct position to guarantee no beam is present in the area.

Stopping the conditions to get the beam is done from the beam terminal (located in the main user's barrack of the concerned beam line) via the **CESAR** graphical user interface:

> **ACCESS**
> **Access Command**
> Select *Door, e.g. PPE **152***
> BEAM OFF
> *your family name*

Once the operation is completed and the EIS elements for the line are put into SAFE mode, the lights on the top of the PPE door will flash accordingly, and the touch panel will indicate the possible new modes: KEY ACCESS or FREE. You can touch the

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corresponding button on the screen to switch to KEY ACCESS or FREE mode. Select the wanted mode and VALIDATE by pressing the red flashing button.

It is advised to maintain the area into KEY ACCESS mode during short accesses to avoid having to patrol each time the area. However some discipline must be envisaged in this case to protect from loosing the keys. If an access key is lost, then a major intervention must be arranged, which for sure will lead to loose of beam time.

3.3 END OF AN ACCESS

When you have finished the 'KEY ACCESS' and the last key has been put back, you may terminate the access by pressing the 'End of Access' button. A timeout starts and at the end of the grace period the VALIDATE button must be pushed. The 'CLOSED AREA' lights start flashing.

Using the CESAR beam terminal you can now switch the beam back on for the area.

> **ACCESS**
> **Access command**
> Select *Door, e.g.PPE* **152**
> BEAM ON
> *your family name*

Now your beam should be switched on after all EIS have been set to the UNSAFE (beam) position.
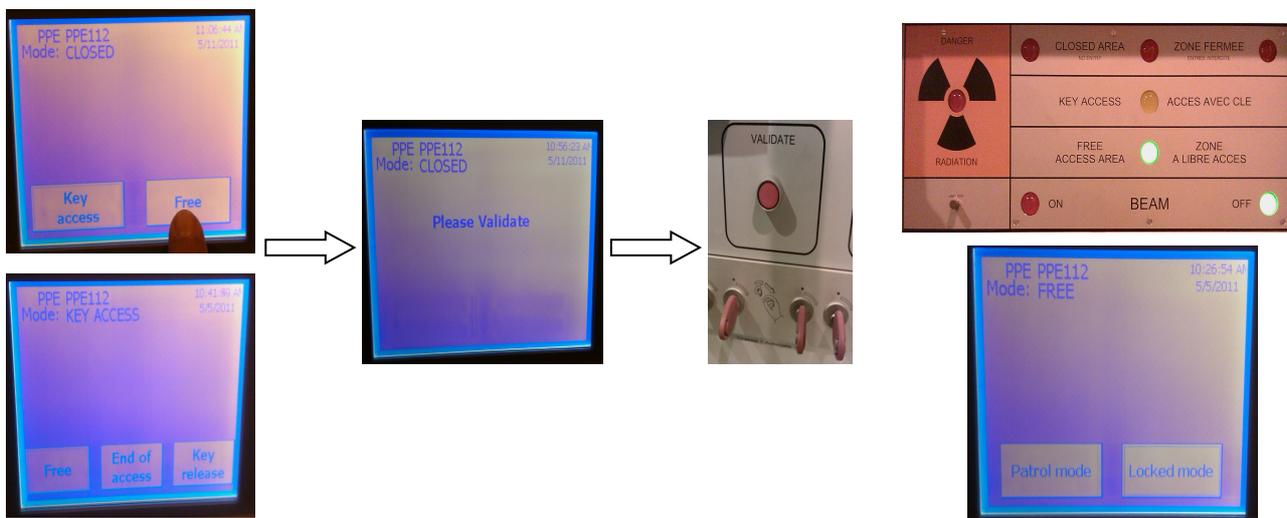
3.4 'FREE' ACCESS MODE

If more than 8 (or 16) people need to enter the experimental area, or during installation or shutdown periods you must switch the access poing to 'FREE' MODE. This can be done but pressing the FREE button in the touch panel soon either directly from the CLOSED mode or from the KEY ACCESS mode. You must validate the choice.

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In 'FREE' access the 'KEY ACCESS' light is no longer on and the 'DANGER RADIATION' lights have stopped flashing. The green BEAM 'OFF' light comes on and the green 'FREE ACCESS AREA' light is on.

Important notes:

- In FREE mode, people may enter the experimental area without taking any key

- To switch back from FREE to KEY ACCESS or CLOSED mode a search and secure procedure (patrol) of the experimental area must be done, by properly authorized persons.

3.5 'LOCKED AREA' MODE

The locked mode can be activated from free access mode (touching screen) without doing a patrol. When the door is locked, it cannot be opened (without going back to 'FREE' access mode). But this mode does not allow switching on the beam.

3.6 ASK FOR HELP

If you encounter any difficulties, you can ask one of the SPS operators. A convenient way to contact them is to use the intercom at the PPE: just press the button and wait for the operators to respond. Identify yourself and the PPE door you are at and explain the problem.

If you cannot reach the operators by intercom, please try to call them by composing 77500 or 70475 on the phone.

4. ADDITIONAL DOCUMENTATION

Additional information can be found in the documents below:

- Présentation du système d'accès des zones secondaire du SPS – EDMS 994081

- User Requirements Document for the (S)PS Experimental Areas – EDMS 476292

- Search and Secure Procedure for SPS Secondary Beam Areas – EDMS 1138831

- Schematic representation of the North Area access system – EDMS 844971