

POSITION OF RAMSES MONITORS, ALARMS AND RACKS in UX85

The positions in the drawing are indicative. The SC/RP group has put stickers on the support structure (wall, pillar) where the monitors will be installed.

For any comment/remark on the location please contact the person indicated on the sticker (J.C.Gaborit, SC/RP) .

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1. Position of RAMSES equipment in the LHCb cavern

All monitors present in the UX85 (A, B and C) and US85 caverns are listed (definition of zones as in EMDS No. 679336).

The RAMSES monitors consist of

- One rack (PYMR)
- Five induced radioactivity detectors (PMIL)
- Three radiation monitors with alarm functions for personnel safety in accessible areas (PAXL). Three additional monitors are optional and only their cables are put in place.
- Six alarm panels associated to the radiation monitors in the accessible area (PADL)
- One control for material (PCML)
- One hand & foot monitor (PHFL)

In addition one tunnel gamma monitor is located in US85 (PATL)

The overall view of all monitors in the underground area is shown in Figure 1.

The monitors are at different levels in the cavern as indicated in the various areas.

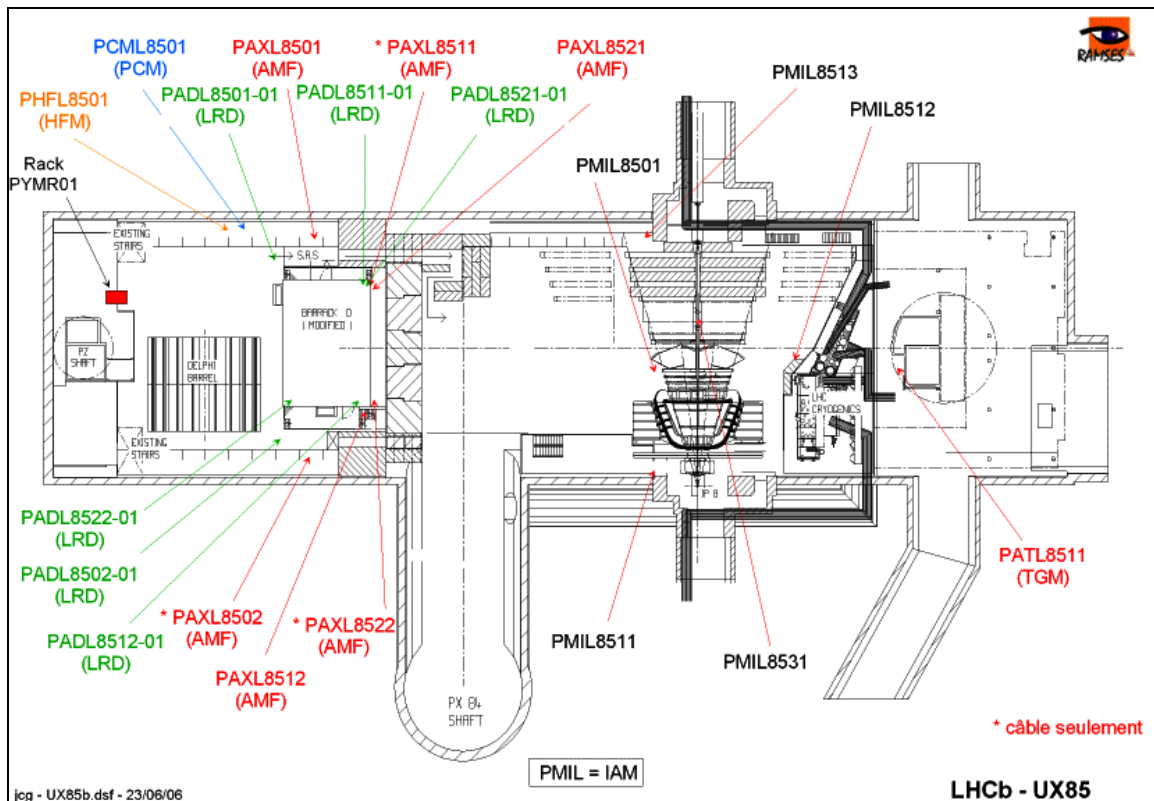


Figure 1. Overall view of RAMSES equipment in UX85 and US

1.1. Monitors underground in the accessible area UX85A

The monitors in the accessible area are for personnel radiation protection during operation and for control when leaving the experimental area UX85B.

On each level of the counting rooms there is one radiation monitor with alarm functions for the personnel safety (PAXL8501, PAXL8512, PAXL8521). They are alternatively left and right looking toward the experiment from the PZ shaft. The monitors are inside the counting rooms. The possibility to have two monitors on each floor is foreseen and cables are pulled for monitors on the side not instrumented. To each installed and foreseen stray radiation monitor is associated an alarm signals' panel (PADL8501, PADL8502, PADL8511, PADL8512, PADL8521, PADL8522). They are all installed and those on the side where the radiation monitor is not present are connected to the existing monitor on the same floor.

The control equipment for materials (PCML8501) and the hand-foot monitor (PHFL8501) are located close to the personnel and small materials controlled access gates at the floor level.

While the global view can be seen in Figure 1, in Figure 2 the monitors at the different levels can be seen.

In Figure 2 it is also indicated the location of the rack (PYMR01) for all RAMSES monitor located in the underground area. The rack is on the floor level on the left side of the PX shaft when exiting the elevator.

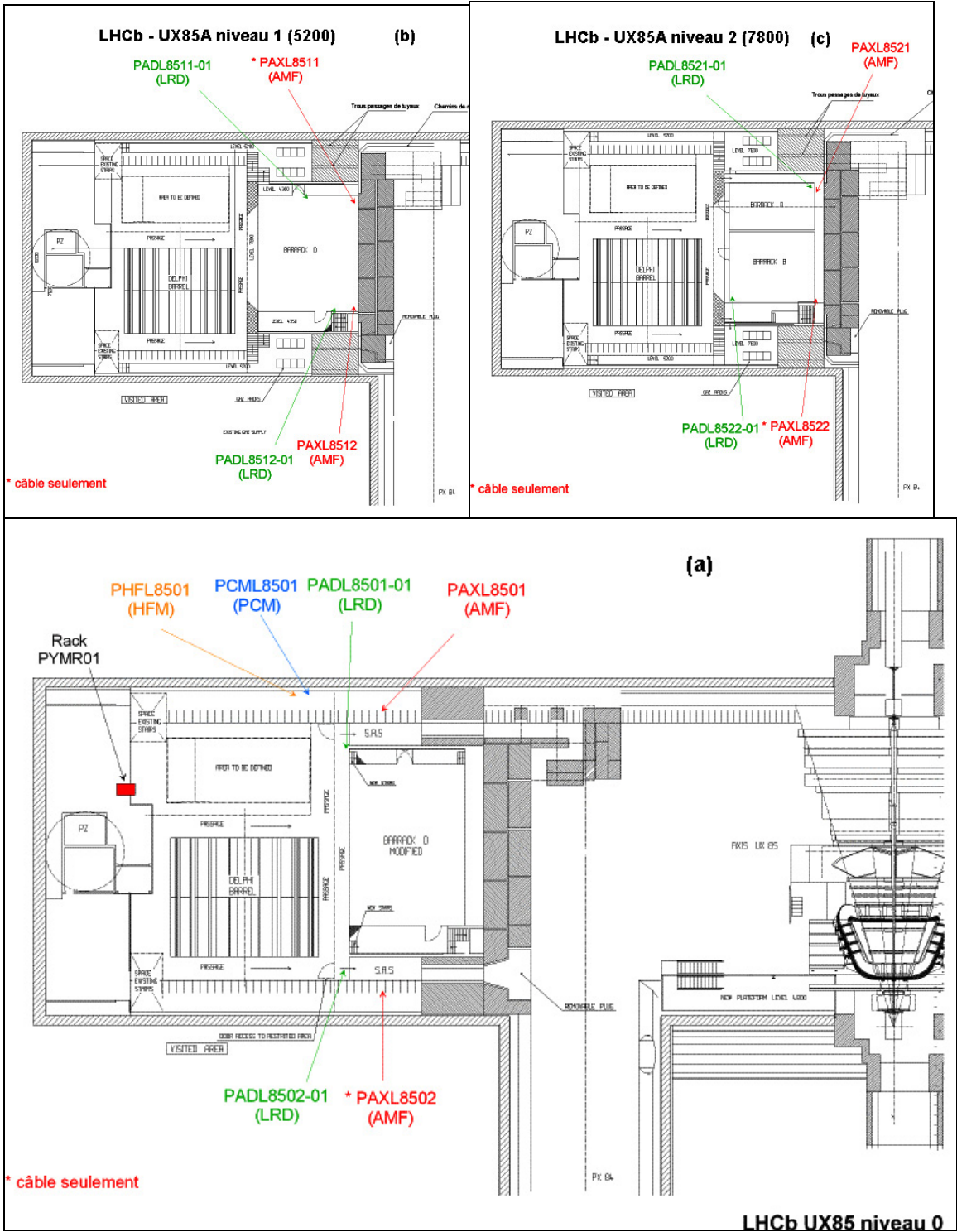


Figure 2 Location of RAMSES monitors in UX85A at floor level (a), first floor (b) and second floor (c)

1.2. Monitors underground in experimental area UX85B

In the experimental area there are five induced radioactivity detectors (PMIL8501, PMIL8511, PMIL8512, PMIL8513, PMIL8531).

They are indicated in Figure 3 and 4.

They have been positioned around the LHCb detector in area that may be easily accessed for intervention at different height from the floor. They will also give an indication of the overall radiation field when the beam is not present. Radiation levels in symmetrical positions in the cavern may be inferred from the existing monitors and in other positions from relative measurements.

The positions of the monitors are:

- PMIL8501, on the floor at the entrance of the Bunker on side A of UX85B to provide radiation level for the access to the racks underneath or crossing to side C (definition of side as in EMDS No. 679336). The monitor is on the right of the bunker when looking toward the LHCb detector and not on the left as indicated with the red arrow in Figure 4b but with the blue arrow.
- PMIL8511, at about the beam level on the balcony on the A / RB84 side of UX85B to provide radiation levels for access to the VeLo, RICH1 and TT. The position is slightly farther from the beam line with respect to what indicated in Figure 3 for accessibility reason
- PMIL8512, at about the beam level on the first floor of the cryogenic installation on the C side of the UX85B cavern (where the central pillar is), to provide radiation levels both for the access to the cryogenic equipment and to RICH2, OT and IT.
- PMIL8513, at about the beam level on the platform on the A / RB86 side of UX85B to provide radiation levels for access to the Muon System.
- PMIL8531, on top of the HCAL above the beam line, to provide radiation levels for access to the racks of ECAL and HCAL. The position is indicated with the blue arrow instead of the red one in Figure 4b.

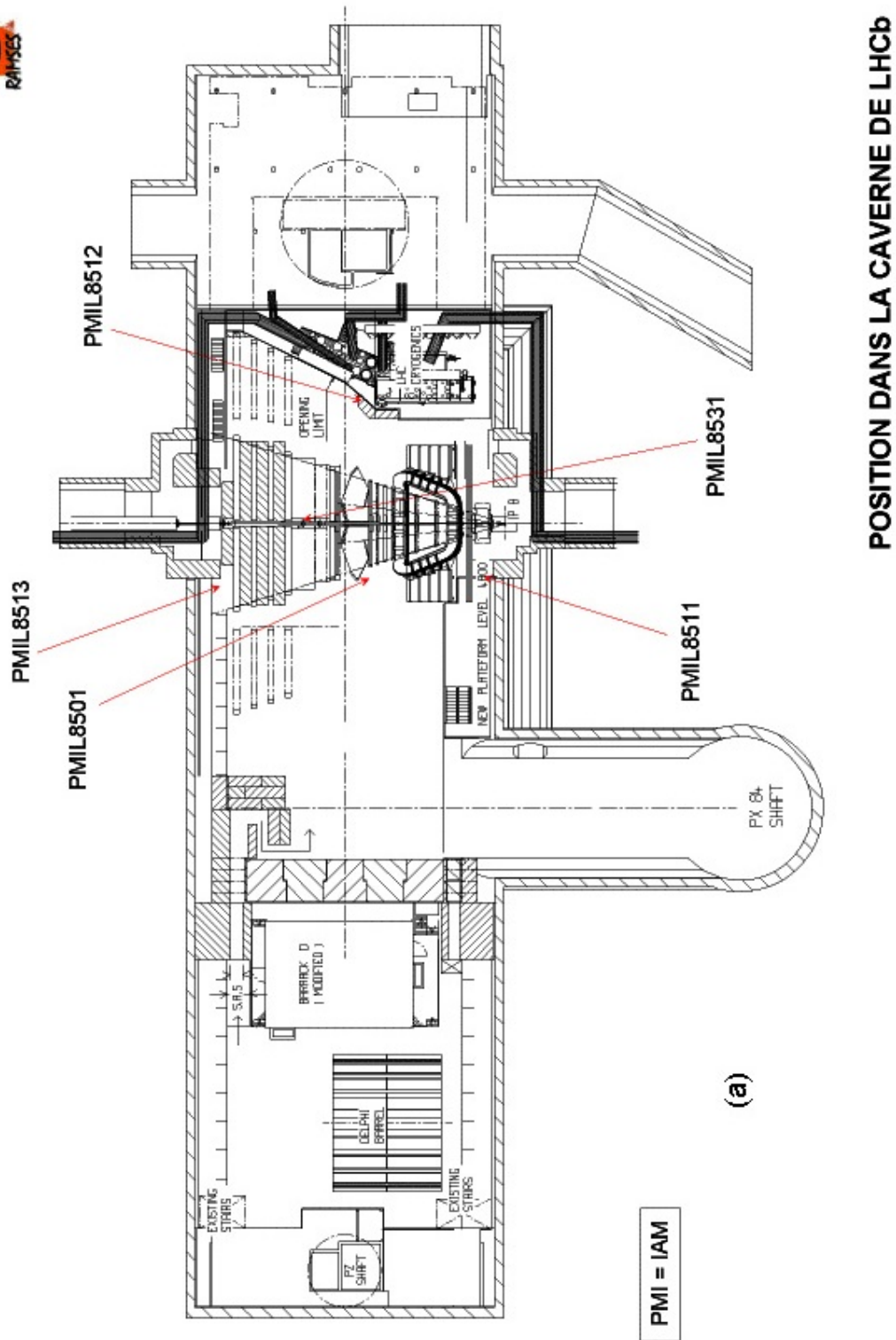


Figure 3 Top view of the positions of the PMILs in the UX85B cavern. The red lines are indicative and both PMIL8511 and PMIL8513 are slightly further away from beam line than indicated in the drawing

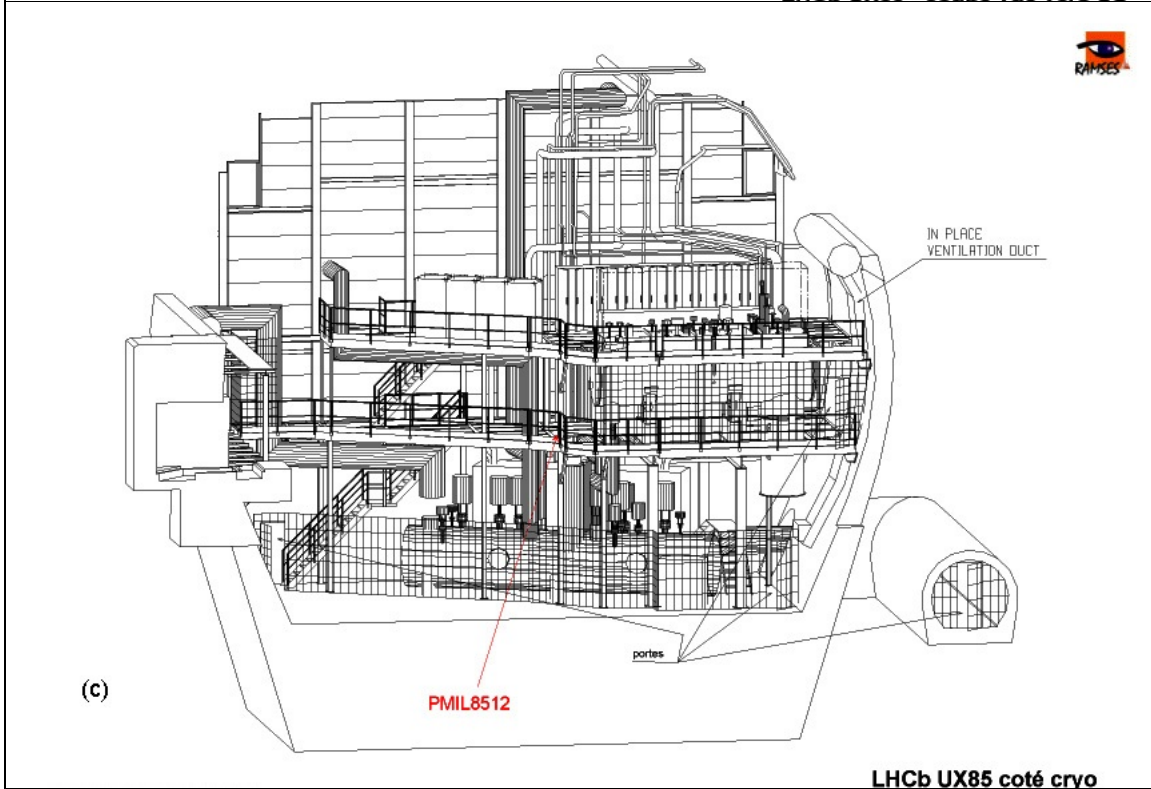
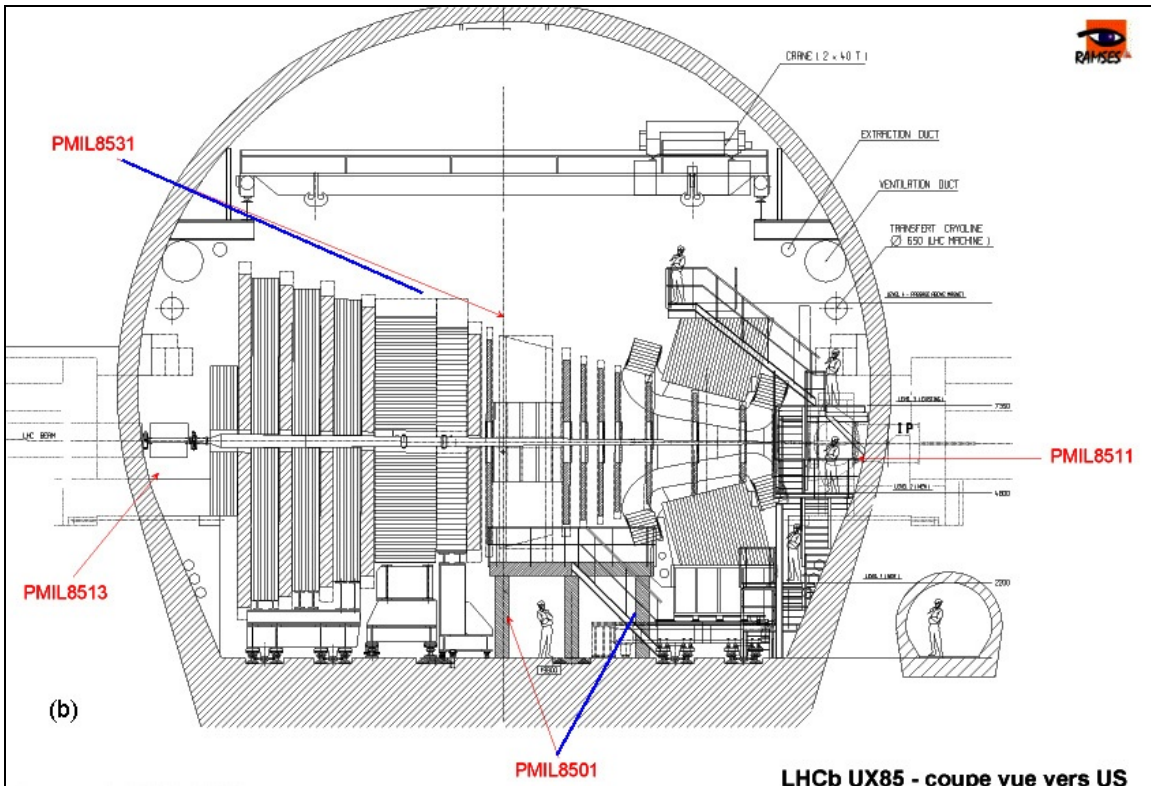


Figure 4 Side view of the positions of the PMILs in the UX85B cavern around the LHCb detector (b) and on the cryogenic side (c). The actual positions for PMIL8501 and PMIL8531 are those indicated by the blue lines rather than the initial red ones.

2. Position of RAMSES equipment on the surface at Point 8

To be added

3. Equipment codes

To add little explanation of the codes found in the drawings