

LS2 planning meeting

A.Tauro

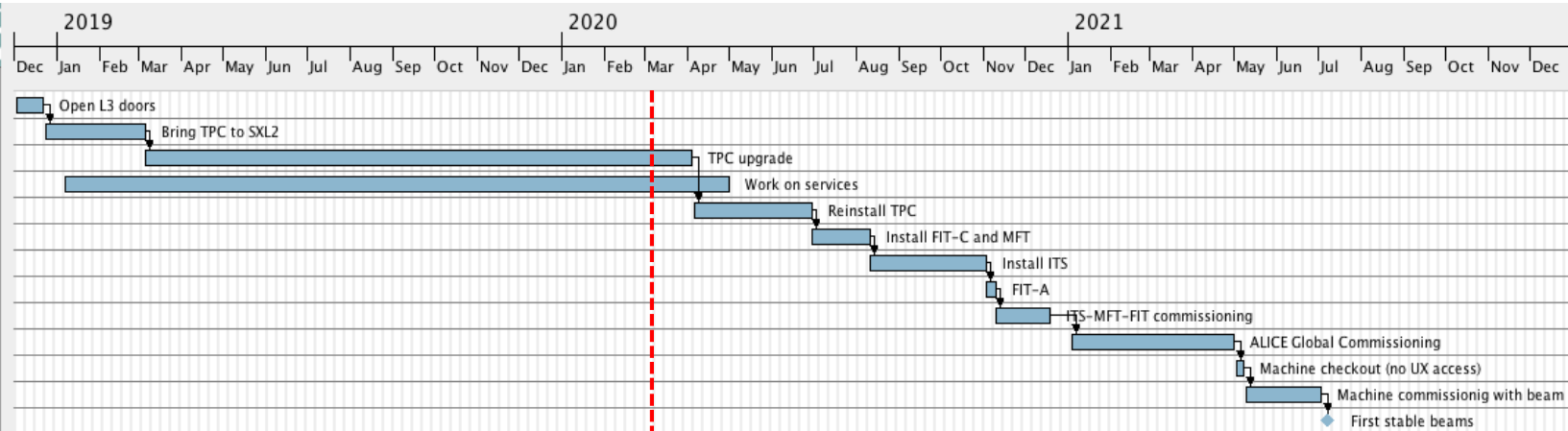


Covid-19 news

- CERN updated information here: <https://hse.cern/news-article/coronavirus-information-measures-and-recommendations>
- ALICE meetings with $N > 100$ people in audience only via videoconference
- All other ALICE meetings will be held in meeting rooms at CERN, but we encourage all collaborators not stationed at CERN to attend the meeting via videoconference. Registration via INDICO for those who will attend the meeting in person is mandatory (tracking purpose)
- All visits cancelled
- Measures concerning **travels of users and workers to CERN:**
 - Travelling of users and workers from outside to CERN to work on the experiments is allowed, except if they come from areas that include “red zones”, as defined and regularly updated on the CERN web page
 - For users and workers from areas that include “red zones”, travel may be allowed in exceptional cases (and for a limited number of people), if they have to carry out key tasks on LS2 maintenance and upgrade projects. Such exceptions will be granted by the Technical Coordination of the experiment in consultation with the Spokesperson. For ALICE, Please contact Werner and Arturo.

LS2 master plan (v36)

Begin date	End date	Dur...
3/12/18	21/12/18	15
24/12/18	5/3/19	52
6/3/19	3/4/20	283
7/1/19	30/4/20	344
6/4/20	29/6/20	61
30/6/20	10/8/20	30
11/8/20	2/11/20	60
3/11/20	9/11/20	5
10/11/20	18/12/20	29
4/1/21	30/4/21	85
3/5/21	7/5/21	5
10/5/21	2/7/21	40
5/7/21	5/7/21	0



Installation of TPC: Apr. 6th 2020
Installation of ITS: Aug. 11th 2020
Start of global commissioning: Jan. 4th 2021
End of access to the cavern: May 1st 2021
→ 116 days of global commissioning = 17 weeks = 4 months

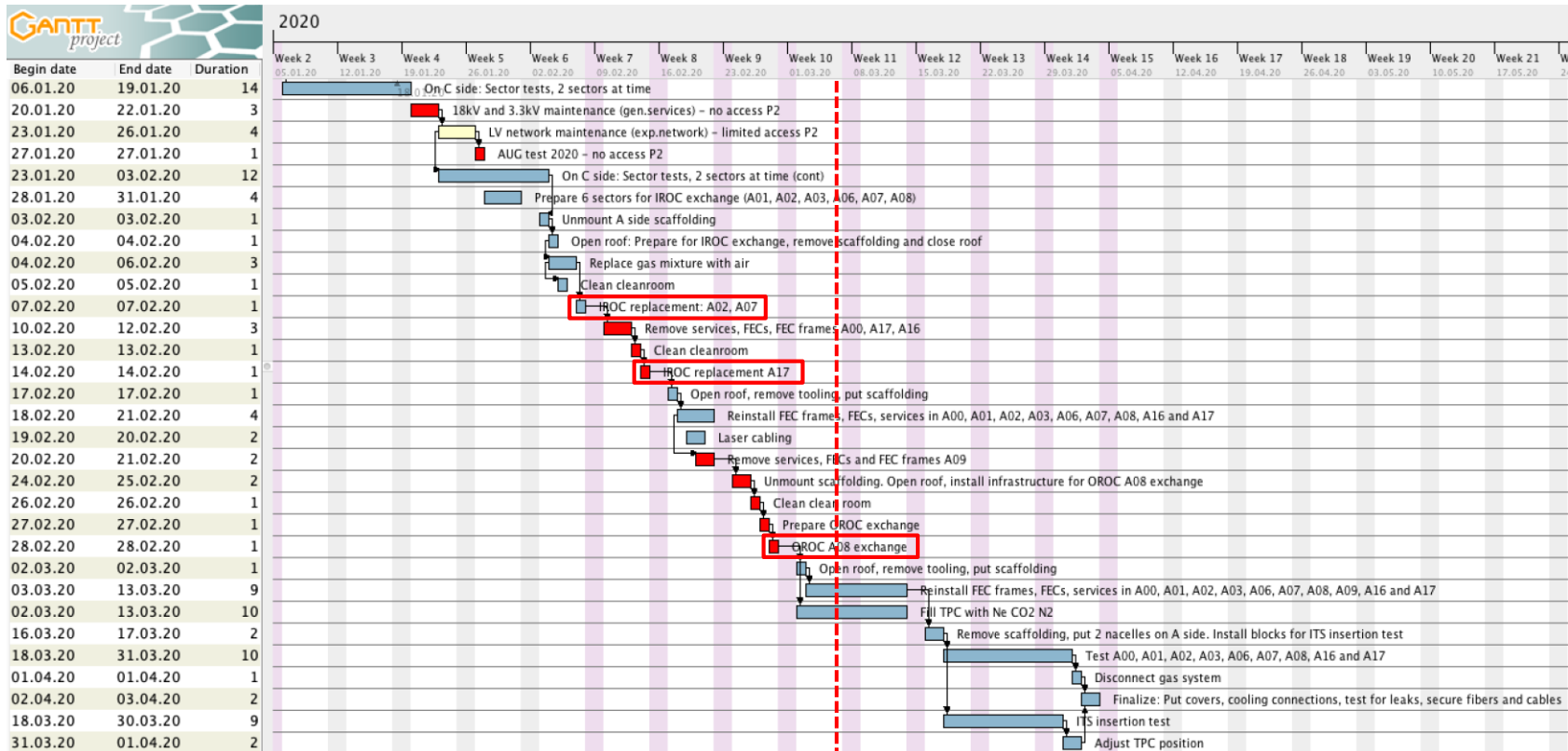
Key dates

Activity	Date
Move TPC to SX2	7 Apr 2020
Install TPC (parking position)	8 – 30 Apr
Install cage and central beampipe	4 May – 1 Jun
Move TPC to IP	2 – 4 Jun
Install Miniframe	25 – 26 Jun
FIT-C & MFT installation and checks	30 Jun – 10 Aug
ITS installation and checks	11 Aug – 2 Nov
FDD-C installation	First half Aug*
FDD-A installation	1-10 Sep
FIT-A installation	3 – 9 Nov
ITS & MFT commissioning time	6w
ALICE global commissioning time	17w
End of LS2 – stop UX25 access	1 May 2021
Start commissioning with beam – ALICE in super-safe	10 May 2021

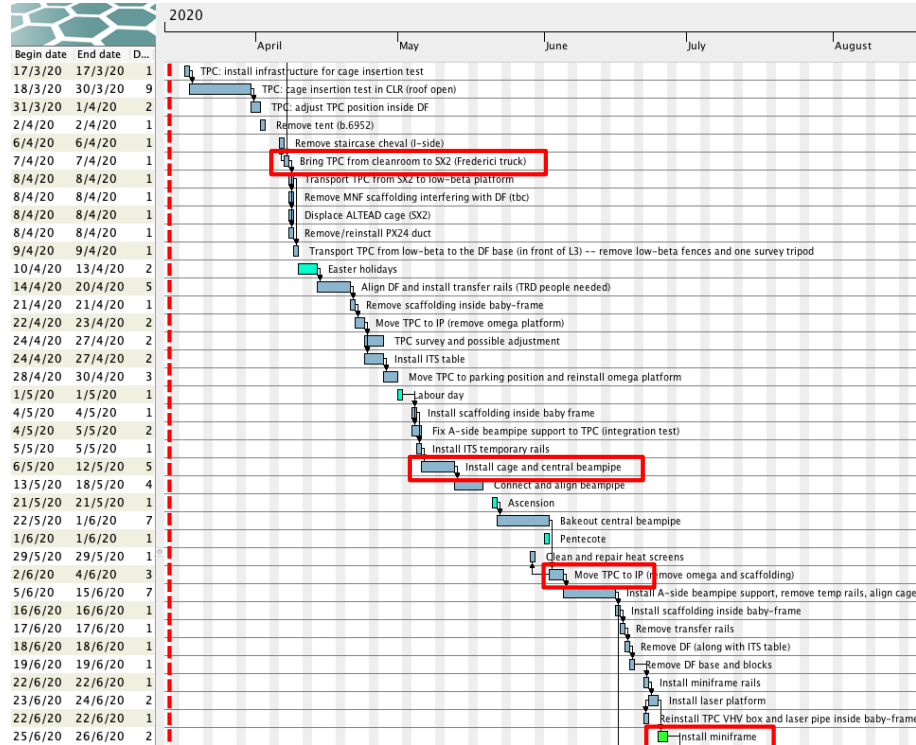
* we need to redo tightness UX-RB26 before w35 (start cool down S23)

TPC upgrade sequence

TPC schedule v43



TPC & miniframe reinstallation sequence



Until Apr 3rd - complete TPC, cage insertion test in SXL2 cleanroom, prepare for TPC transportation

Apr 7th - transportation TPC to SX2

Apr 8th - May 5th - reinstall TPC
 TPC moved to IP, adjusted and put back to parking position

May 6th - Jun 1st - install cage and central beampipe

Jun 2nd - 4th - move TPC to IP - start connection TPC to services

Jun 5th - 24th - prepare miniframe installation

Jun 25th - 26th - reinstall miniframe

TPC upgrade sequence



Done

Remove Services and FEE
(outside cleanroom)



Done

Uninstall MWPC ROC



Done

Install GEM ROC



Done

Install new FEC + test



Ready for transportation to
SX2

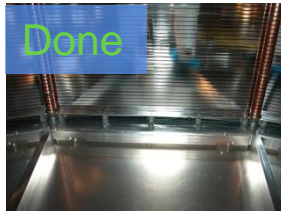


Done

TPC in cleanroom.
Cleaning & irradiation tests

7 Mar

11 Apr



Done

FC HV infrastructure
modification

25 Apr (A)
5 Aug (C)

13 May (A)
16 Aug (C)



Done

Survey, shimming,
sealing

14 Jun (A)
25 Aug (C)

5 Jul (A)
16 Sep (C)



Ongoing

Pre-commissioning with
cosmic, Laser, pulser, Xray

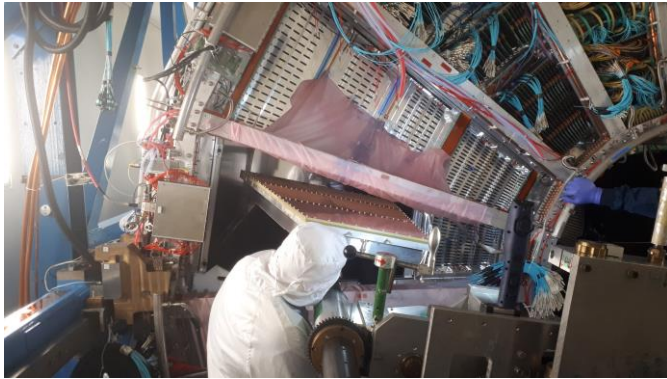
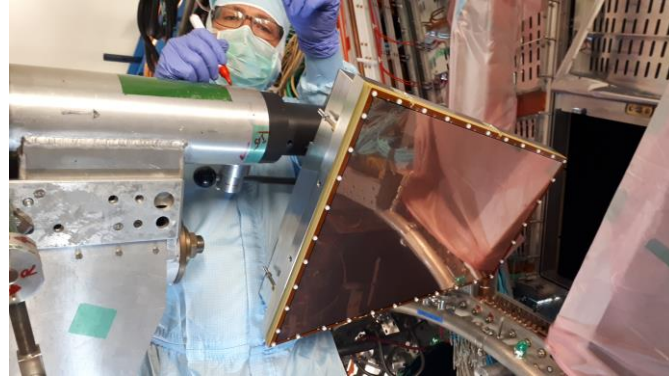
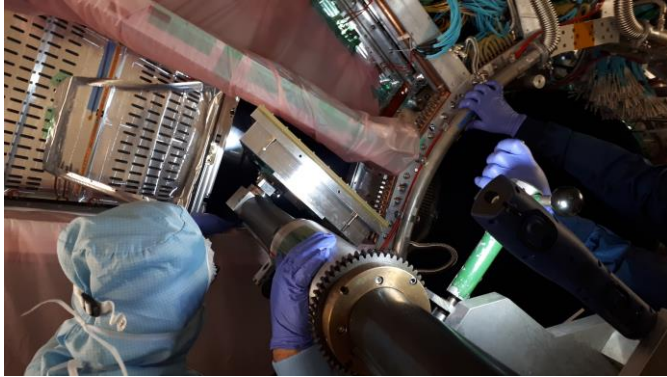
14 Oct (A)
31 Oct (C)

25 Nov (A)
3 Feb (C)

3 Apr 2020

TPC schedule v42

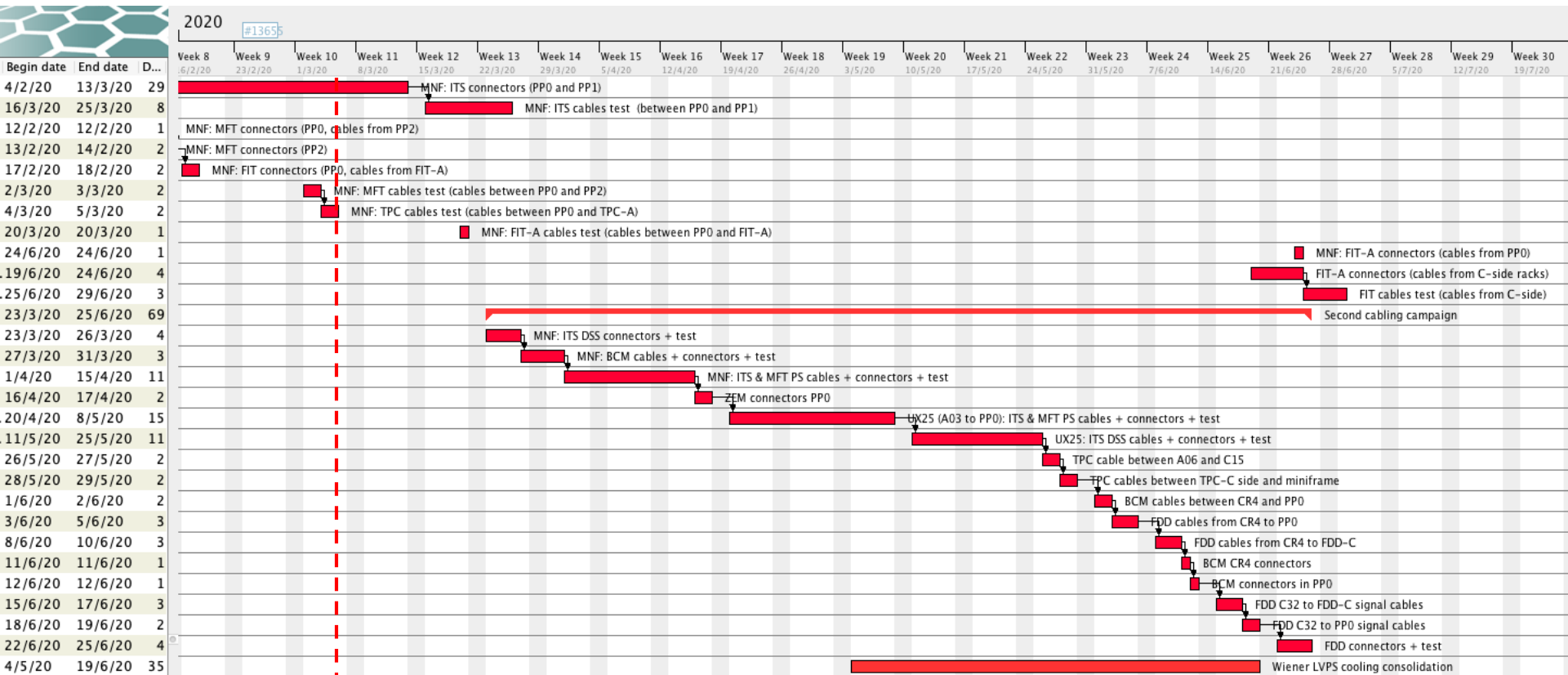
TPC ROC exchange



TPC: opening in the roof

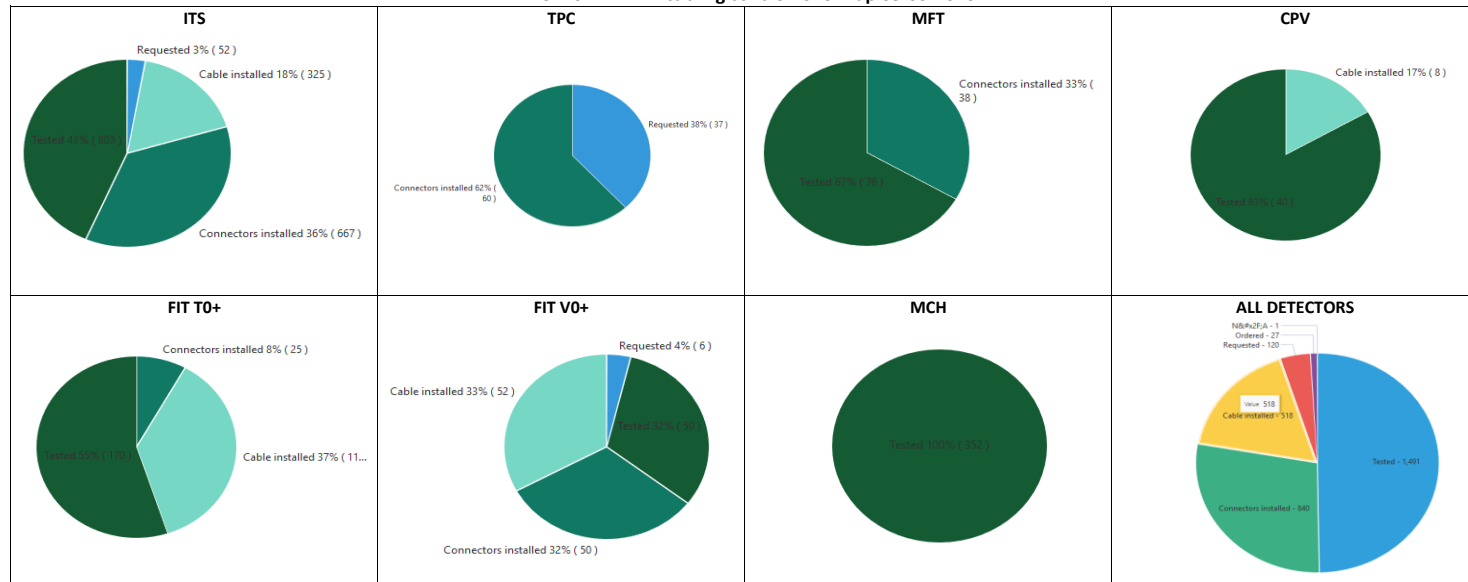


Copper cables (EN-EA)



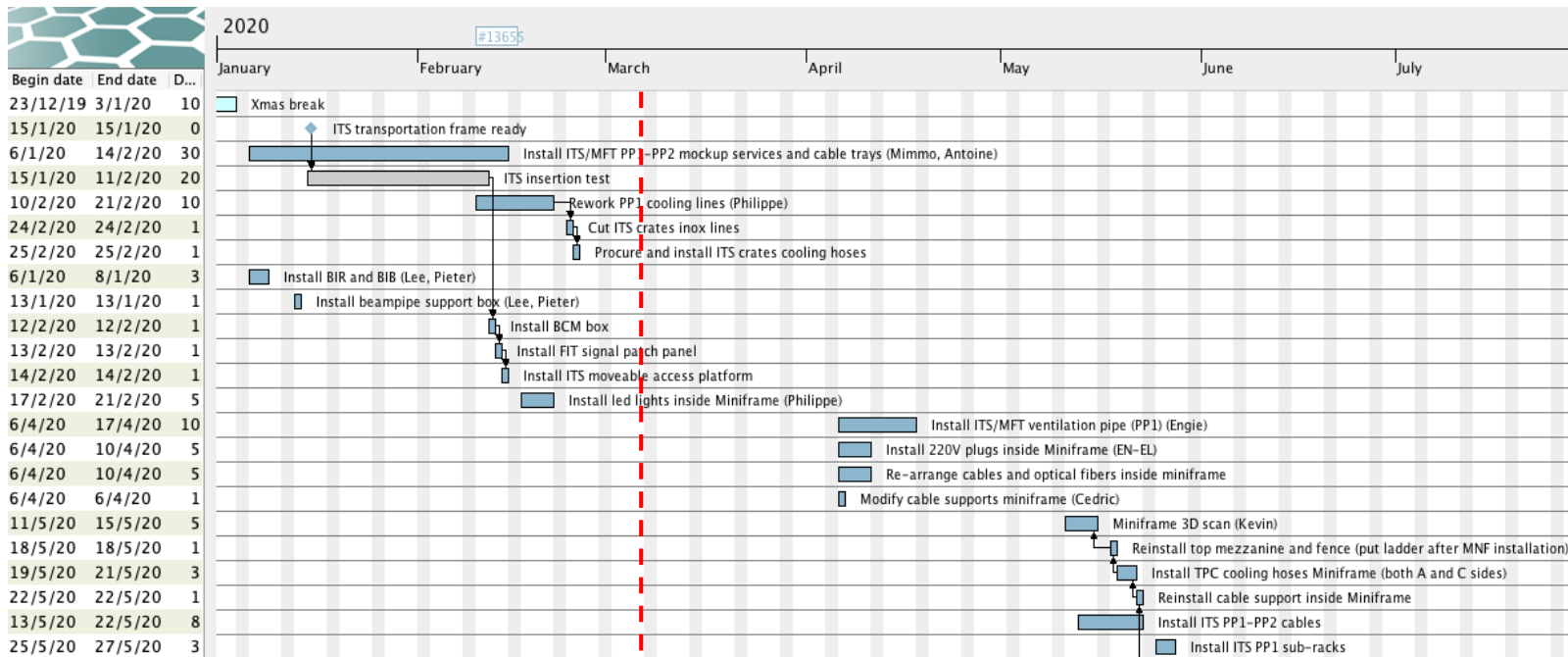
Copper cables (EN-EA)

ALICE LS2 - EN-EA cabling control follow-up 05-03-2020



Progress pulling: 96%
 Progress connectors: 78%
 Progress test: 50%

Miniframe schedule



EN-EL interventions

- 18kV, 3.3kV and LV network maintenance: 20-24 Jan 2020 – Done
- AUG on Monday 27 January 2020 – Done
- Auto transfer test: 27-29 Apr 2020
- Test secours (10 min at 6:00 AM): 26 May 2020

Racks status

- Racks currently powered on:
 - HMPID: I01, I02
 - PHOS-CPV: A16, A17, C05
 - CTP: C24, C25, C26, C27 (CTP) (and VME crates on)
 - MCH: C08, C10, C37, C39
 - TOF: O03, O04, O05, O30, O31, O32, I03, I04, I05, I30, I31, I32
 - TRD: O06, O08, O26-29, I06, I08, I26-29, C16-19, C29
 - Dcal, EMcal: A14, O12
- Detectors can be powered, compatible with current activities inside L3

CR3 status

(A.Augustinus)

- February
 - (10.02 – 21.02) Modify water circuit (add TA valves) – kept DCS up and running – DONE (valves in CR4 are also installed)
 - Extension of main network starpoint outside CR2 (preparation)
 - Arrival of new racks end of February
- March
 - (02.03 – 20.03) Installation of new racks, water connections – ongoing
 - (from 23.03) Installation of network fibres (between CR1, starpoint and CR3), electricity
 - Arrival of new servers end of March
- April
 - Installation of the servers in the new racks
 - Installation of network infrastructure (some network interruptions to be foreseen, details to be defined with IT-CS)
- May-June-July
 - Migration from old servers to new servers (first central systems, then detector systems)
- July-August
 - Removal of old servers and last old racks

EN-CV interventions

- **Big maintenance:**
 - SF: from Nov 2019 to mid Jan 2020. NO impact on ALICE as both magnets will be OFF – done
 - UW: **stop UX mixed water** for 2 days in week 41/2019 (October) – Tue 8 and Wed 9 Oct – done
 - SU: various small perturbations + 1 day **stop all cooling UX** + 1 day **stop all cooling SXL2** in week 16/2020 (April)
- **Small maintenance:**
 - UW: from mid Aug 2020 to mid Sep 2020. **Stop mixed water UX** for 1 day in week 37/2020 (September).
 - SF+SU: weeks 45-47/2020: cleaning towers (stop SF 1 week) + 1 day **stop all cooling UX**.
- Renovation transformer UIAC220 in w10/2020 → transparent but need to reduce mixed-water consumption
- Stop demineralized water from 17 to 20 December 2019
- **Ventilation:**
 - ~~SG2 (2019): w7/2019~~
 - ~~SG2 (2020): Tue-Wed - w3/2020~~
 - ~~Gas extraction: w8/2019~~
 - ~~UX25 cavern: w2/2020~~
 - ~~MCH and MTG: Mon-Thu - w3/2020~~
 - L3: need to replace extractor → 2 days stop → will cut flammable gases (maybe in week 17)
 - ITS: → will be done before end June
- **Raw water:**
 - Test after Apr 2019. Short interruption (1 day), can be used tap water during the test.

Other tests foreseen in 2020-21

2020:

- LASS functional test: no access to UX25 on Monday 3 Aug 2020 whole day (weekend 8-9 Aug as contingency)
- LASS global verification of entire LHC: 1 day no access to UX25 (date tbc)
- BIW test: no access underground on 5 and 6 Oct 2020 from 18:00 to 00:00

2021:

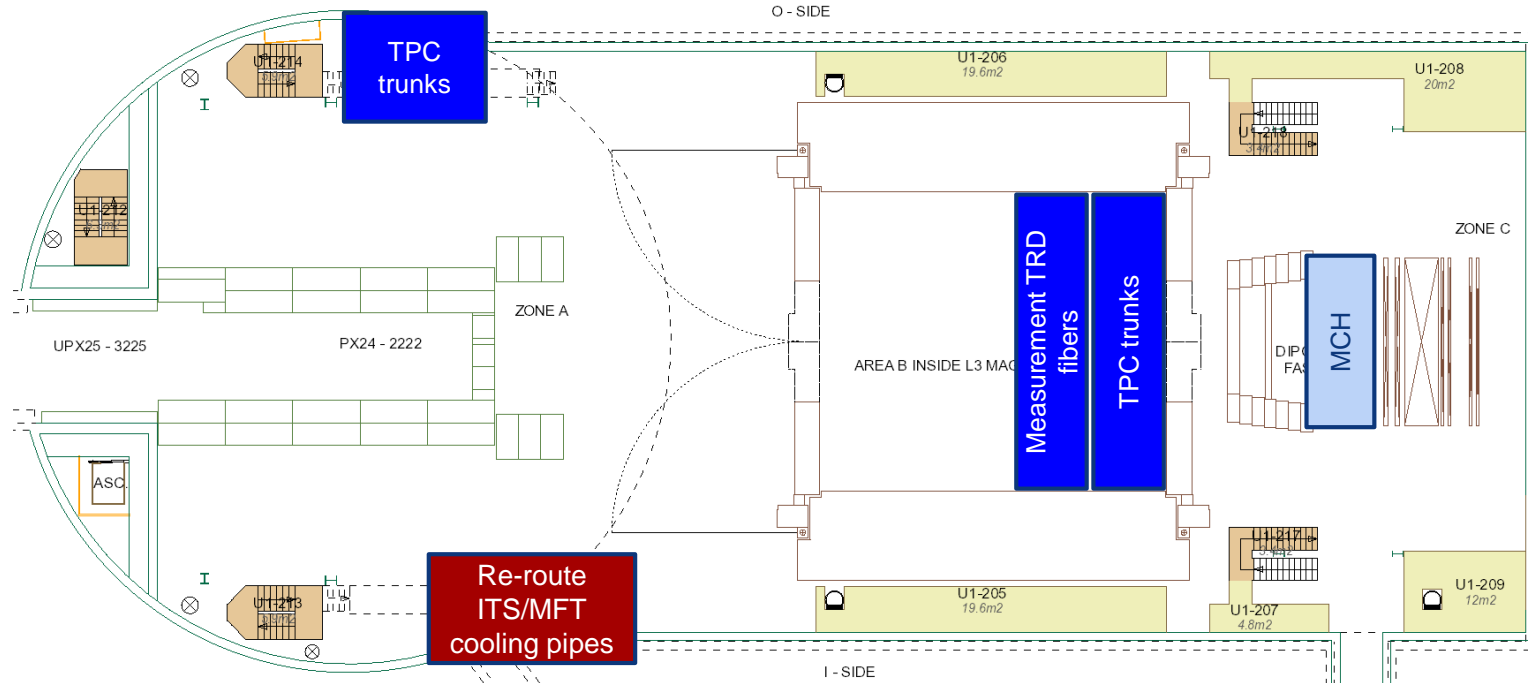
- DSO test: no access to UX25 on 8 and 9 Mar 2021 (tbc)
- LHC sector test (beam through ALICE): no access to UX25 from 26 to 29 March 2021

Day-by-day sequence w9



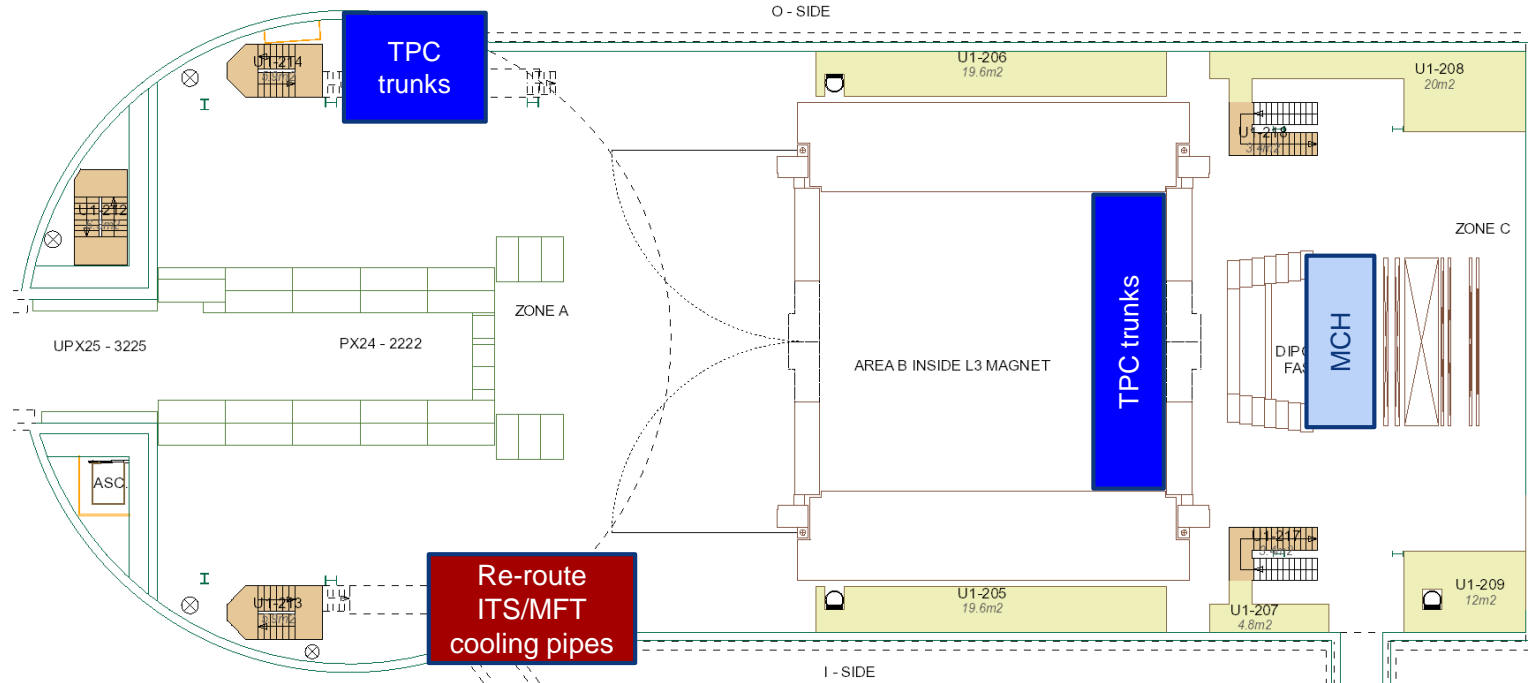
UX25 activities w9 – Mon 24 Feb 2020

MCH: X-ray tests ST1 quadrants in SX2 RP bunker (whole week)



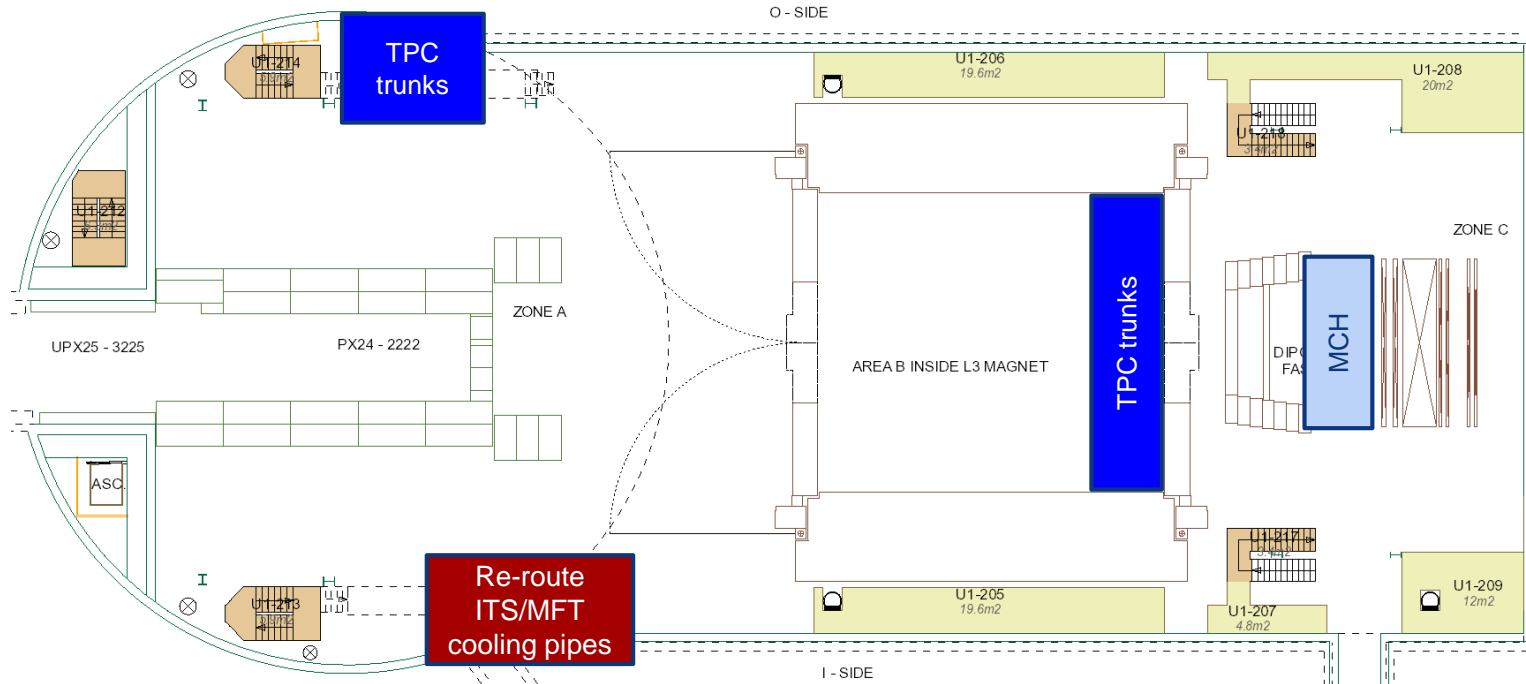
UX25 activities w9 – Tue 25 Feb 2020

Cleaning cavern (Topnet): 13:00 to 15:00



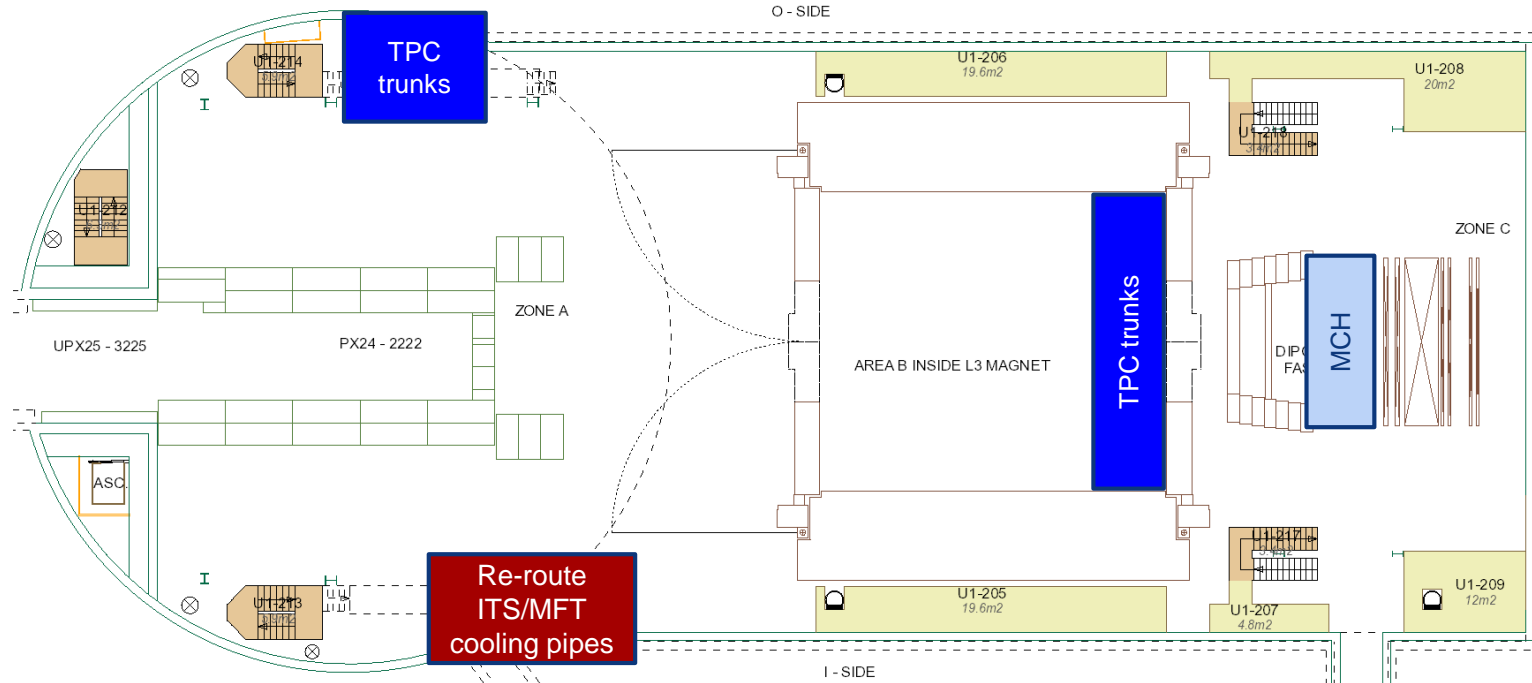
UX25 activities w9 – Wed 26 Feb 2020

Install new CR3 racks



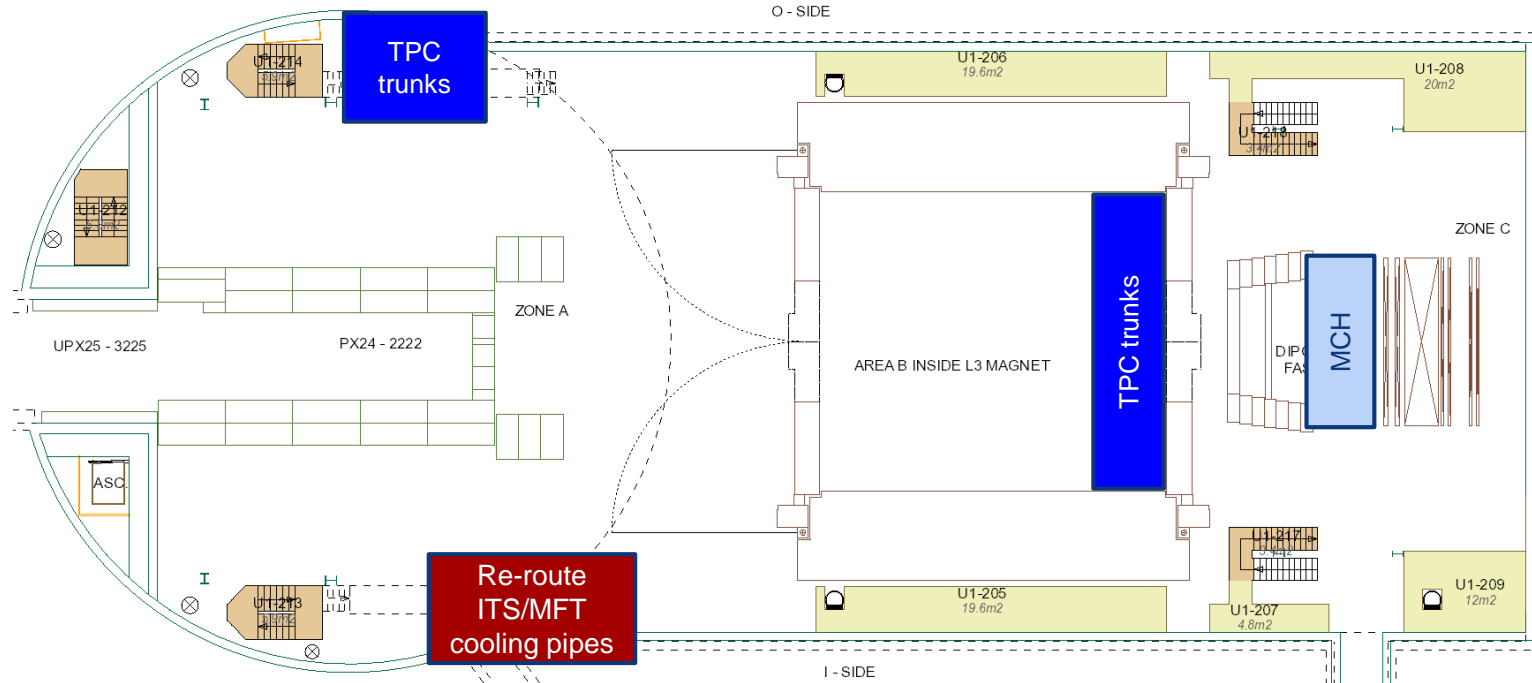
UX25 activities w9 – Thu 27 Feb 2020

Install new CR3 racks

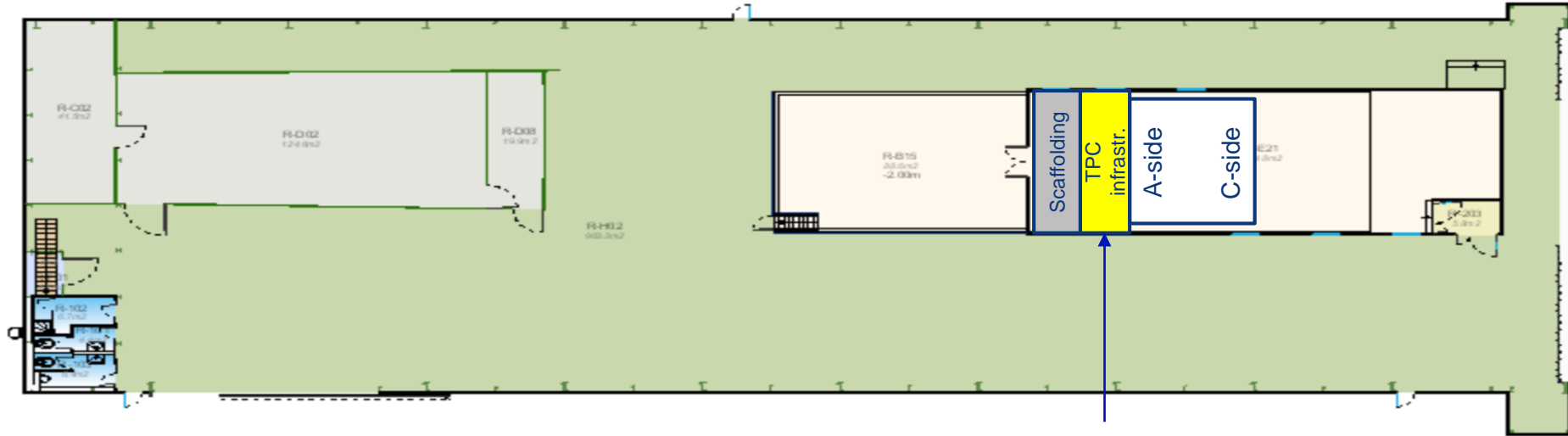


UX25 activities w9 – Fri 28 Feb 2020

Remove scaffolding laser platform in SX2 (Ouvaroff)

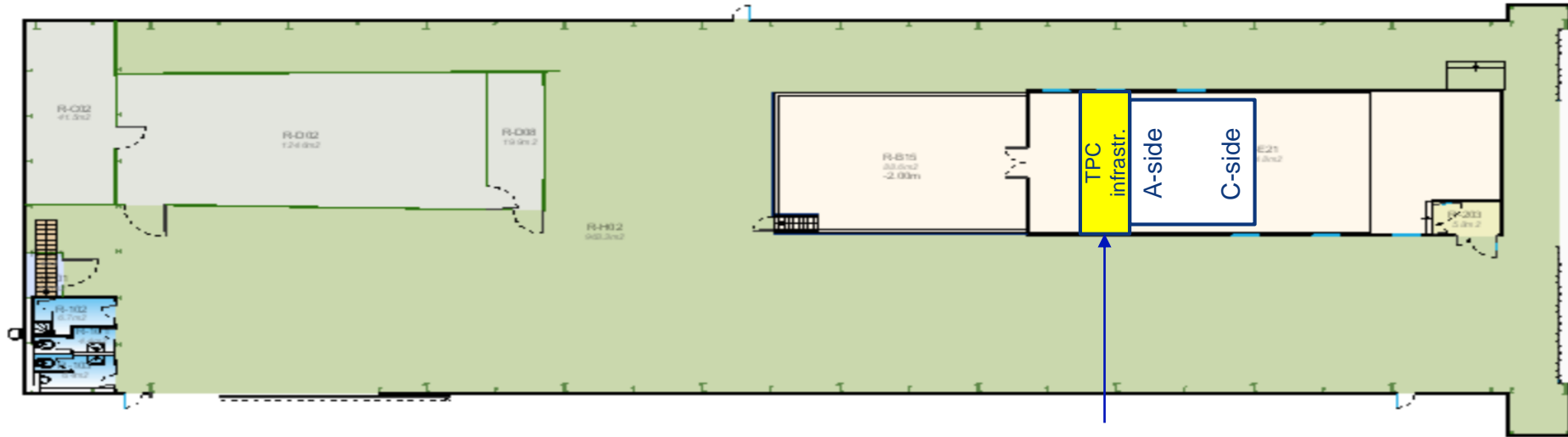


SXL2 activities w9 – Mon 24 Feb 2020



TPC, ALTEAD & P2tech: open roof,
install blocs, blue structure,
staircase and fan unit

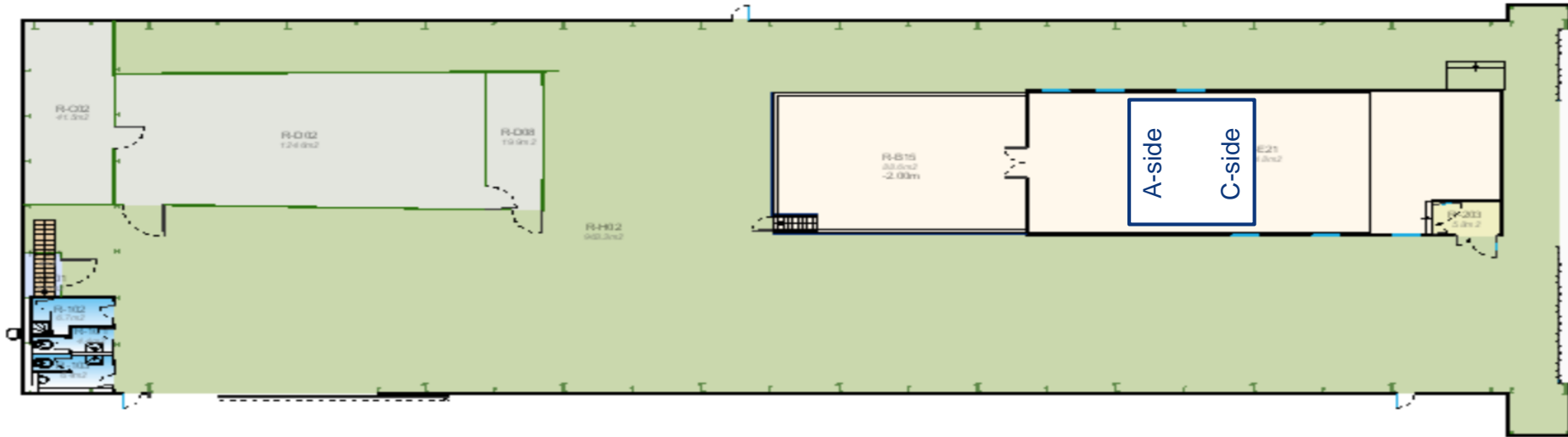
SXL2 activities w9 – Tue 25 Feb 2020



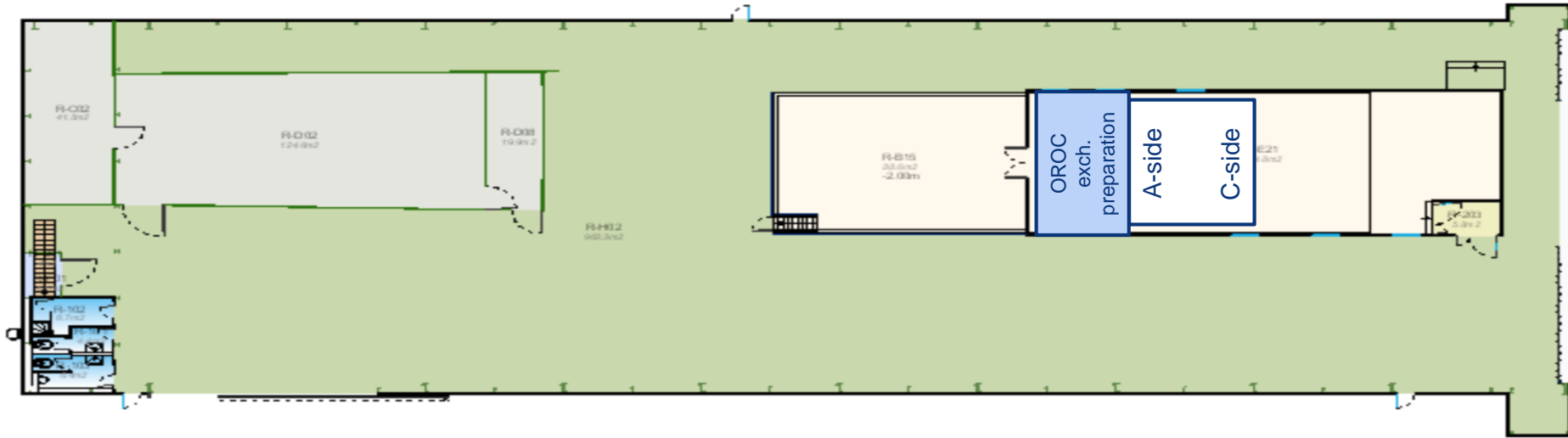
TPC, ALTEAD & P2tech: cutout and sealing into roof, install electric winch, close roof

SXL2 activities w9 – Wed 26 Feb 2020

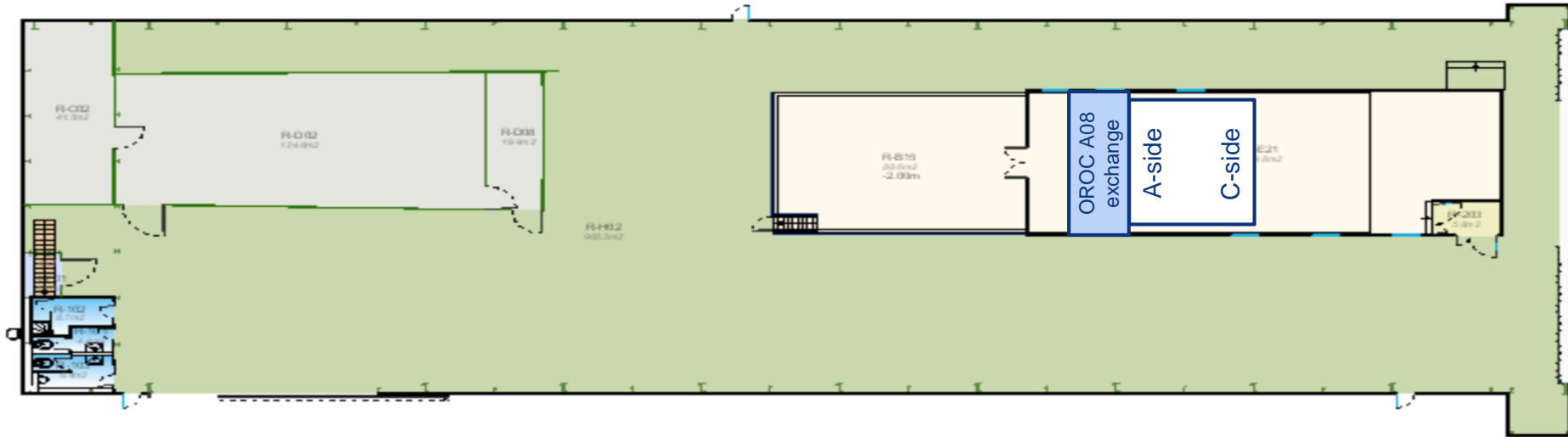
Cleaning cleanroom (DOSIM)



SXL2 activities w9 – Thu 27 Feb 2020



SXL2 activities w9 – Fri 28 Feb 2020

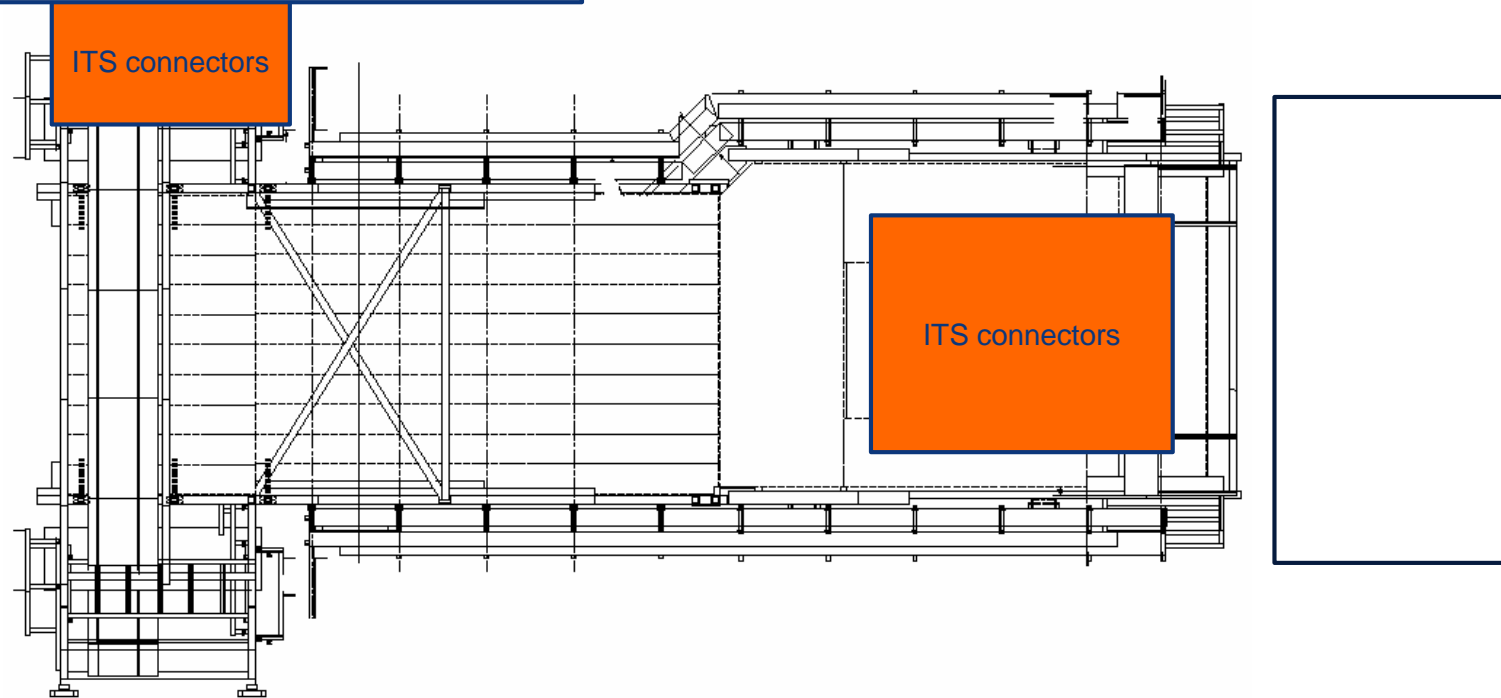


Miniframe activities w9 – Mon 24 Feb 2020

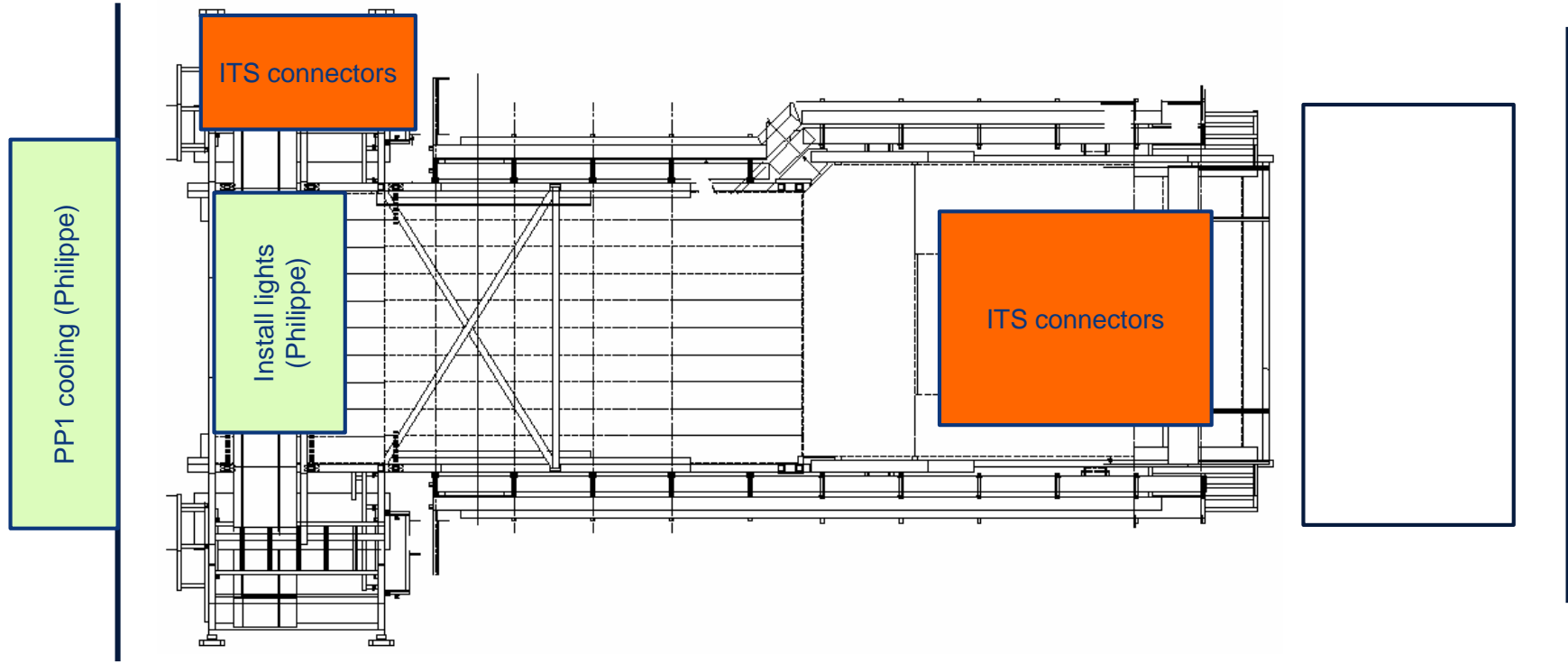
Finish ITS rack supports; build ITS access trap and FIT patch panel (Cedric)

Cleaning miniframe (Elior): 7:00 to 8:00

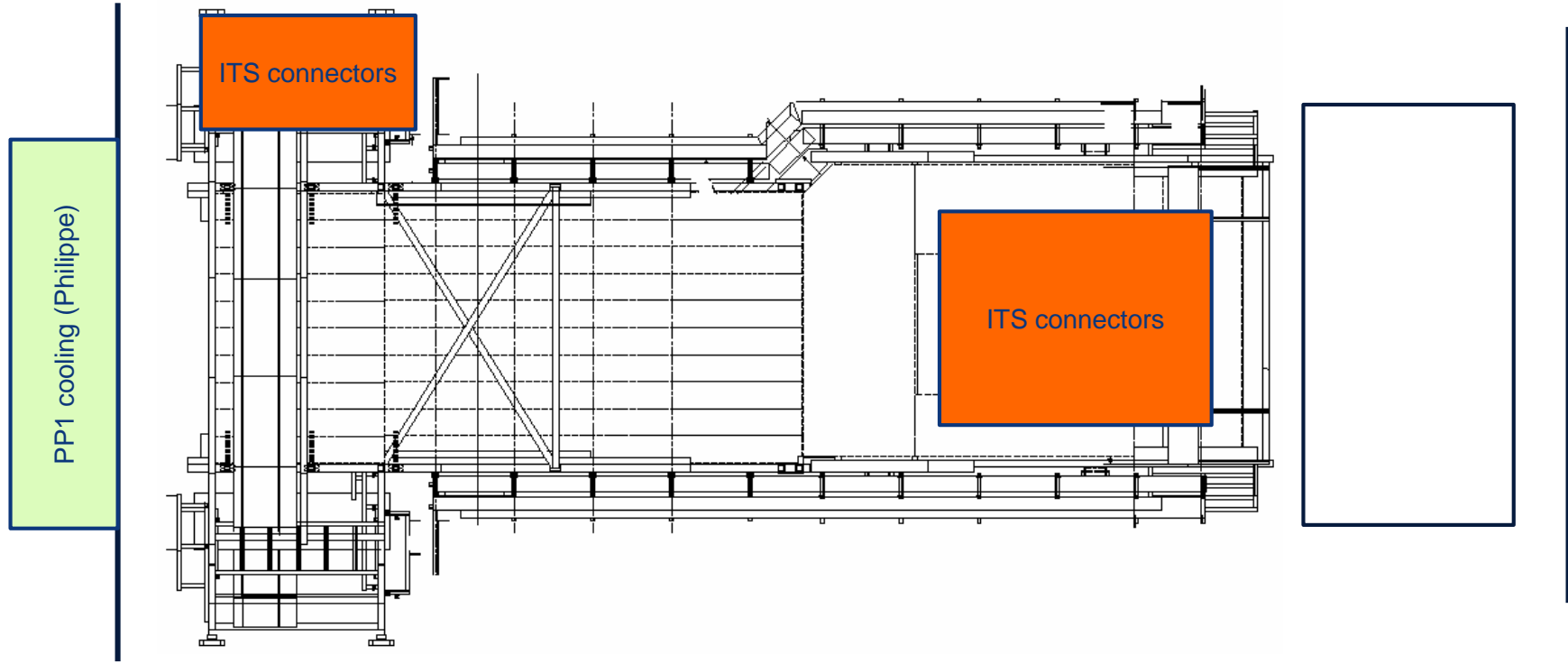
PP1 cooling (Philippe)



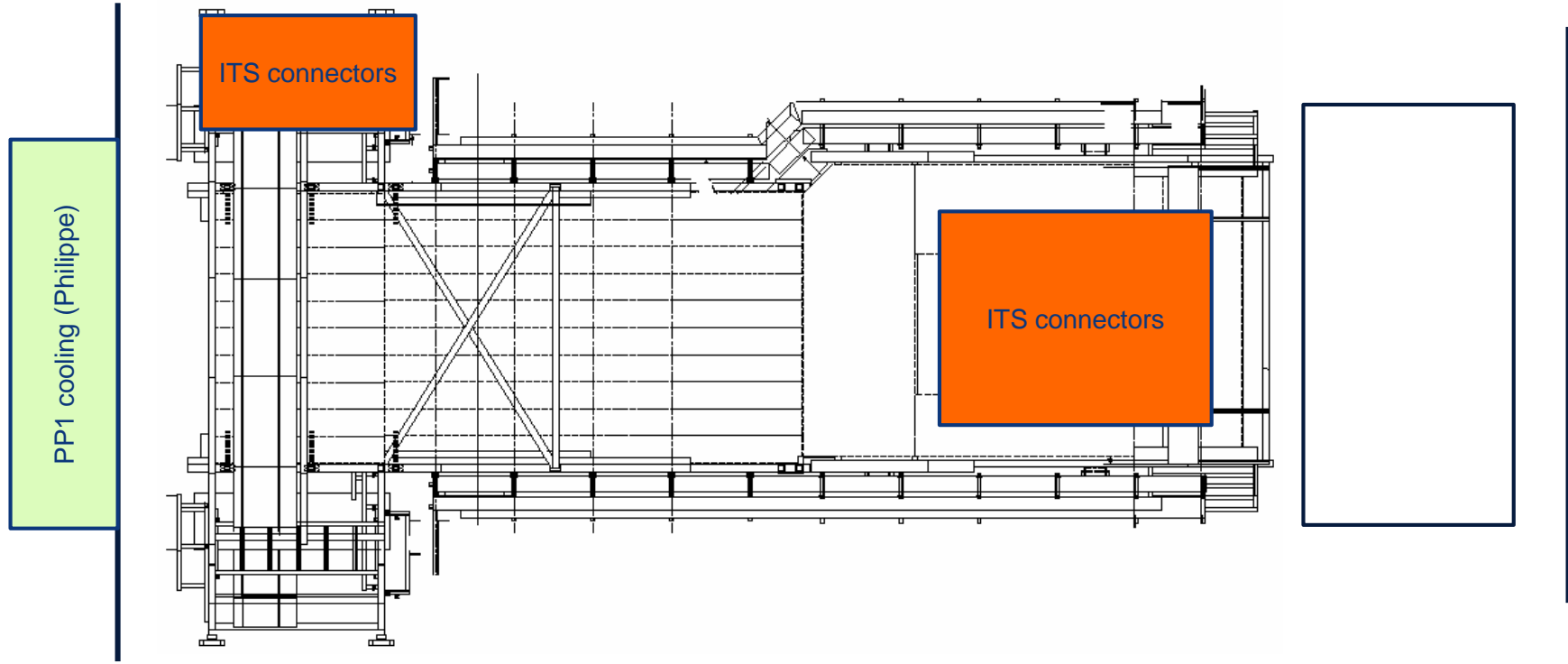
Miniframe activities w9 – Tue 25 Feb 2020



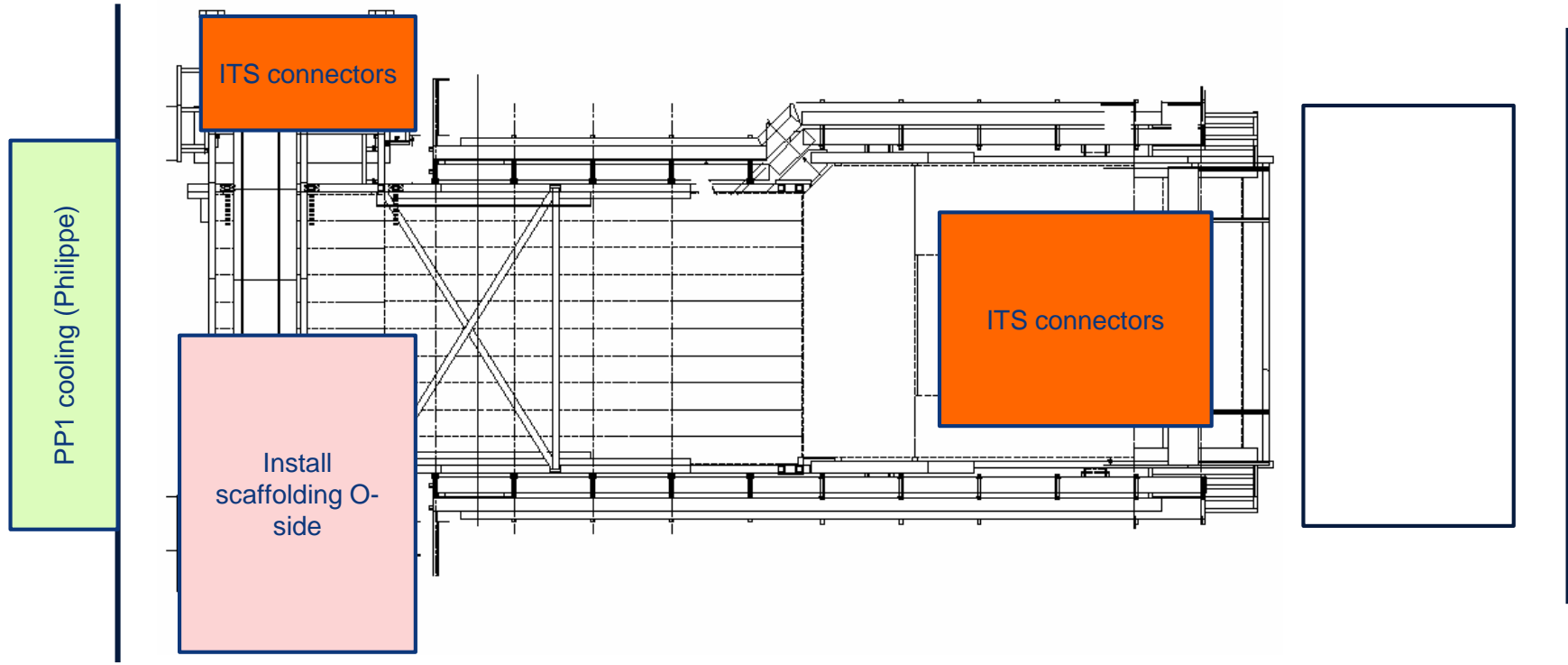
Miniframe activities w9 – Wed 26 Feb 2020



Miniframe activities w9 – Thu 27 Feb 2020



Miniframe activities w9 – Fri 28 Feb 2020

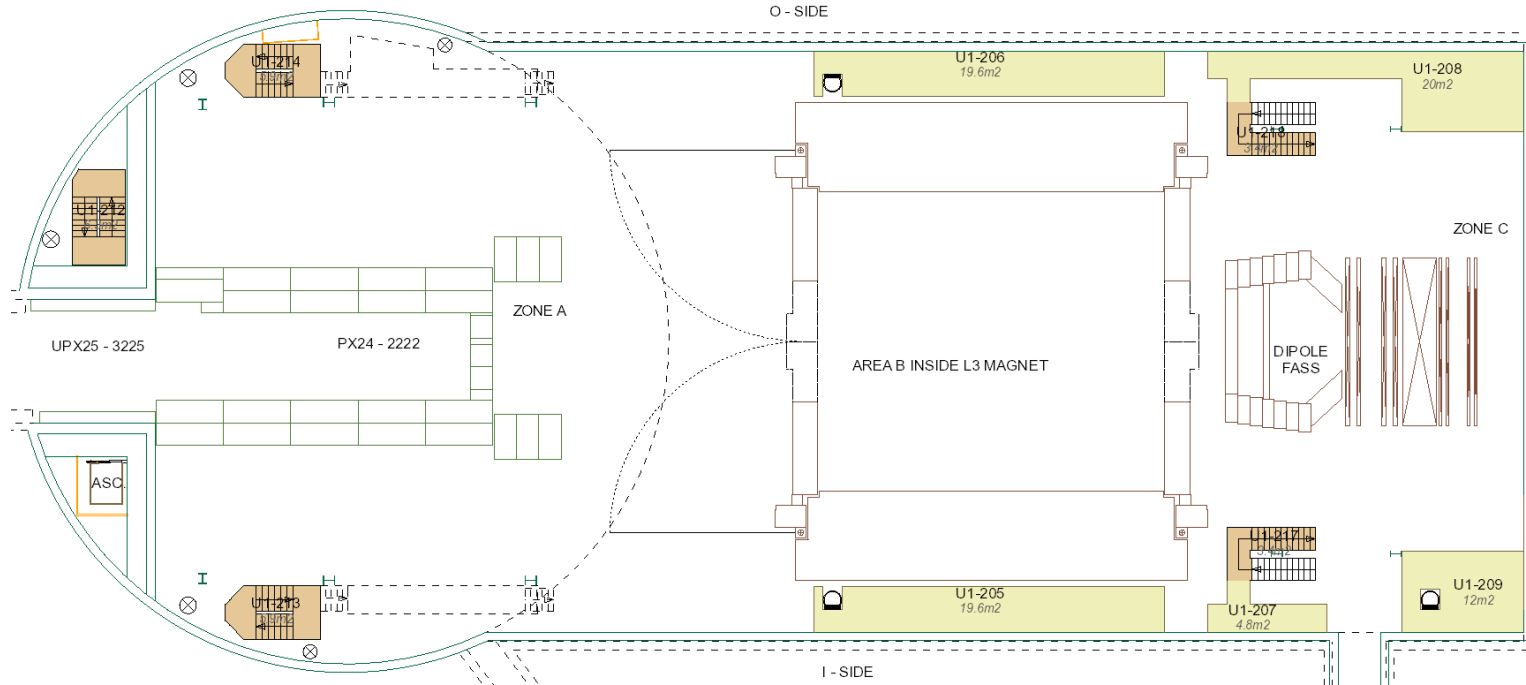


Day-by-day sequence w10



UX25 activities w10 – Mon 2 Mar 2020

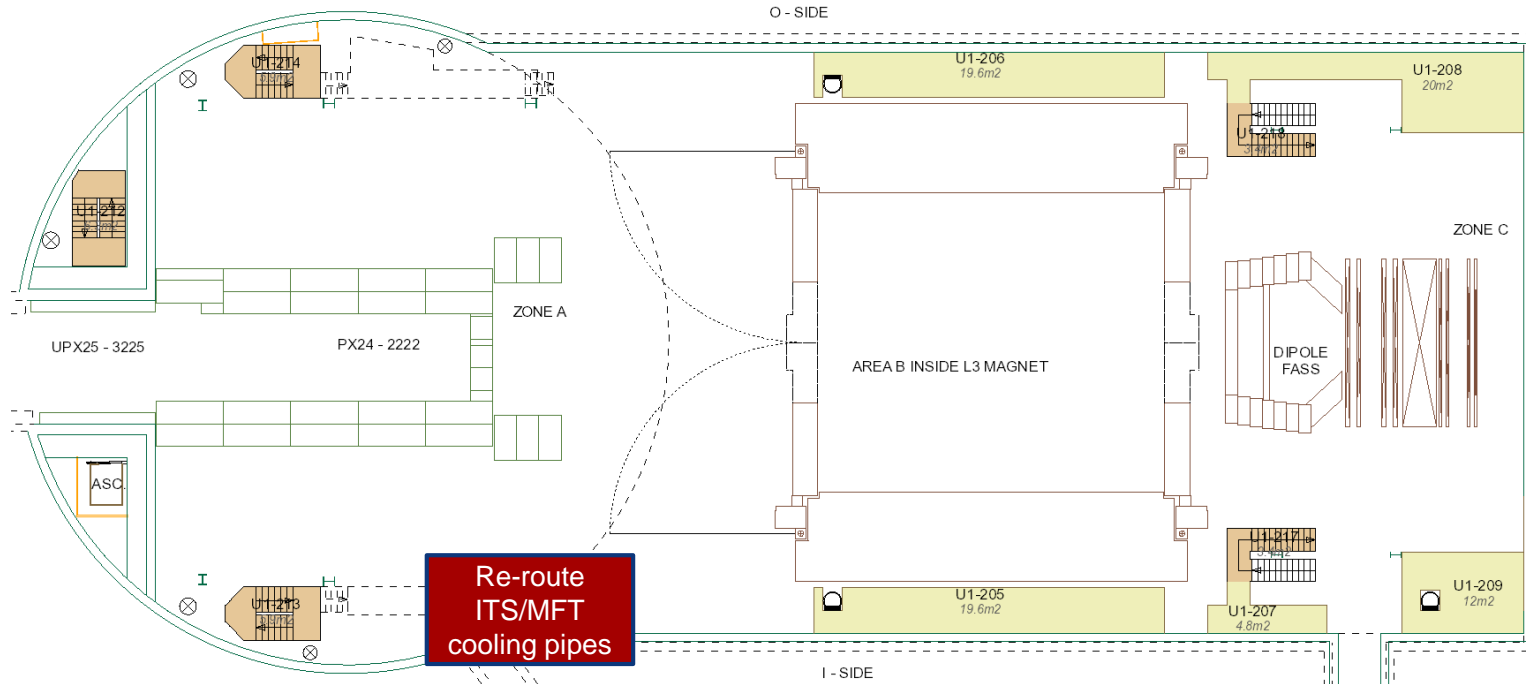
EN-EL: renovation transformer UIAC220 (whole week) → reduce mixed-water consumption



UX25 activities w10 – Tue 3 Mar 2020

Cavern lift maintenance: no access to UX25 from 6:00 AM to 8:00 AM

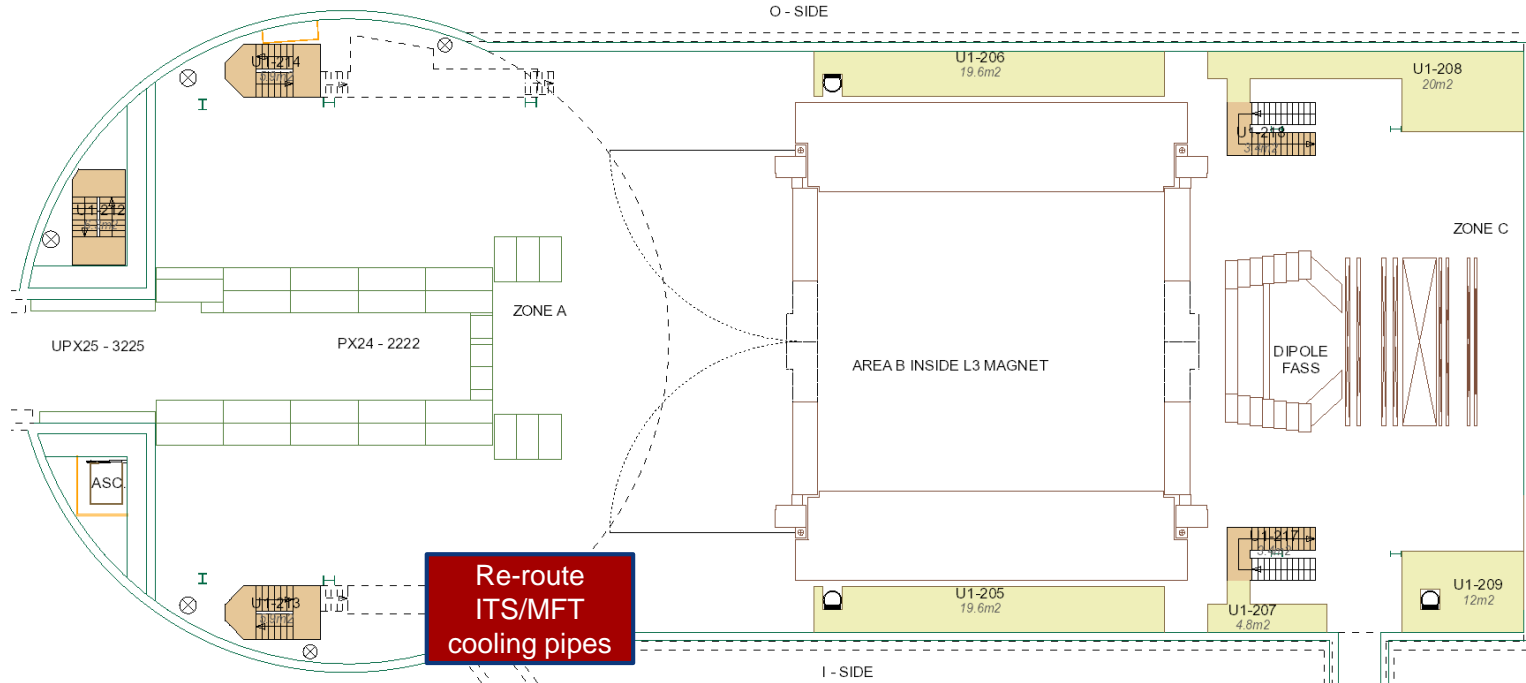
Cleaning cavern (Topnet): 13:00 to 15:00



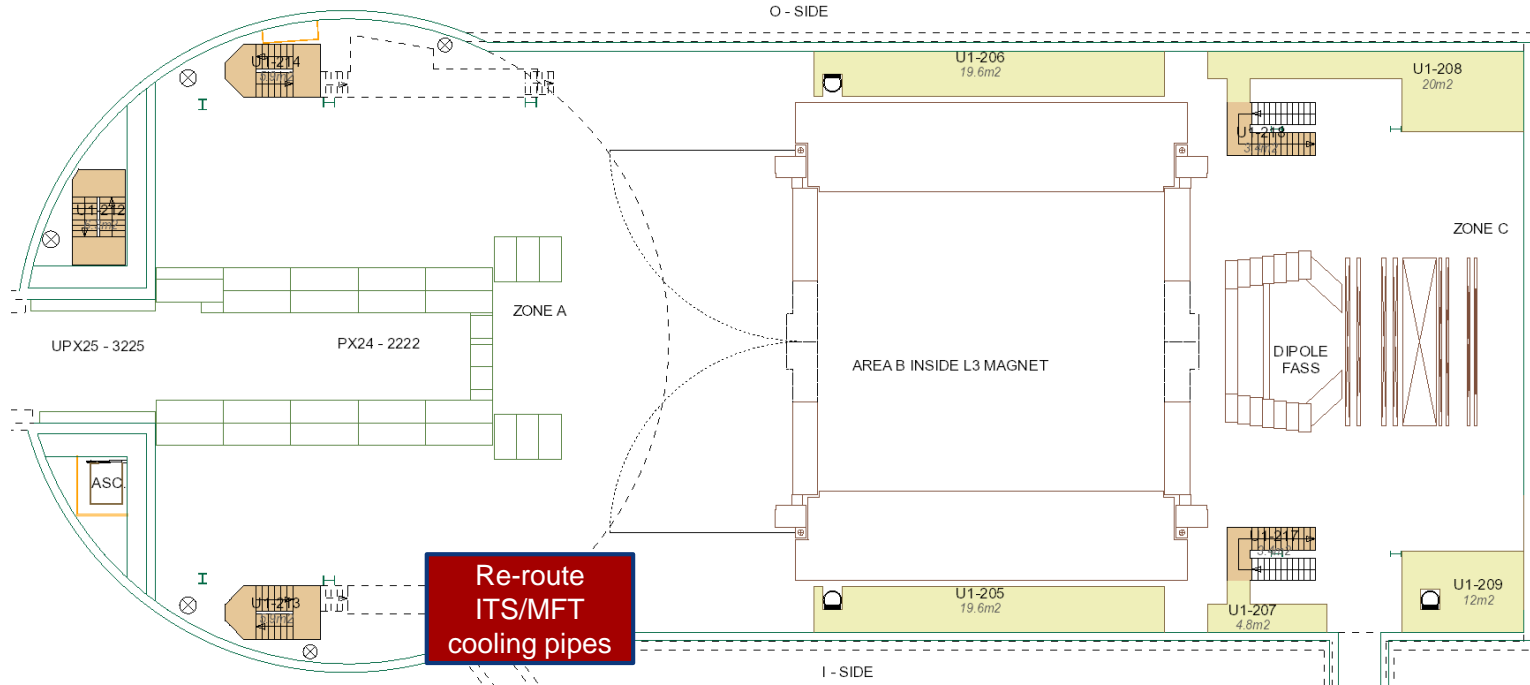
UX25 activities w10 – Wed 4 Mar 2020

IT: install power line for CR2 starpoint in SX2 (COMSA) (Wed – Fri)

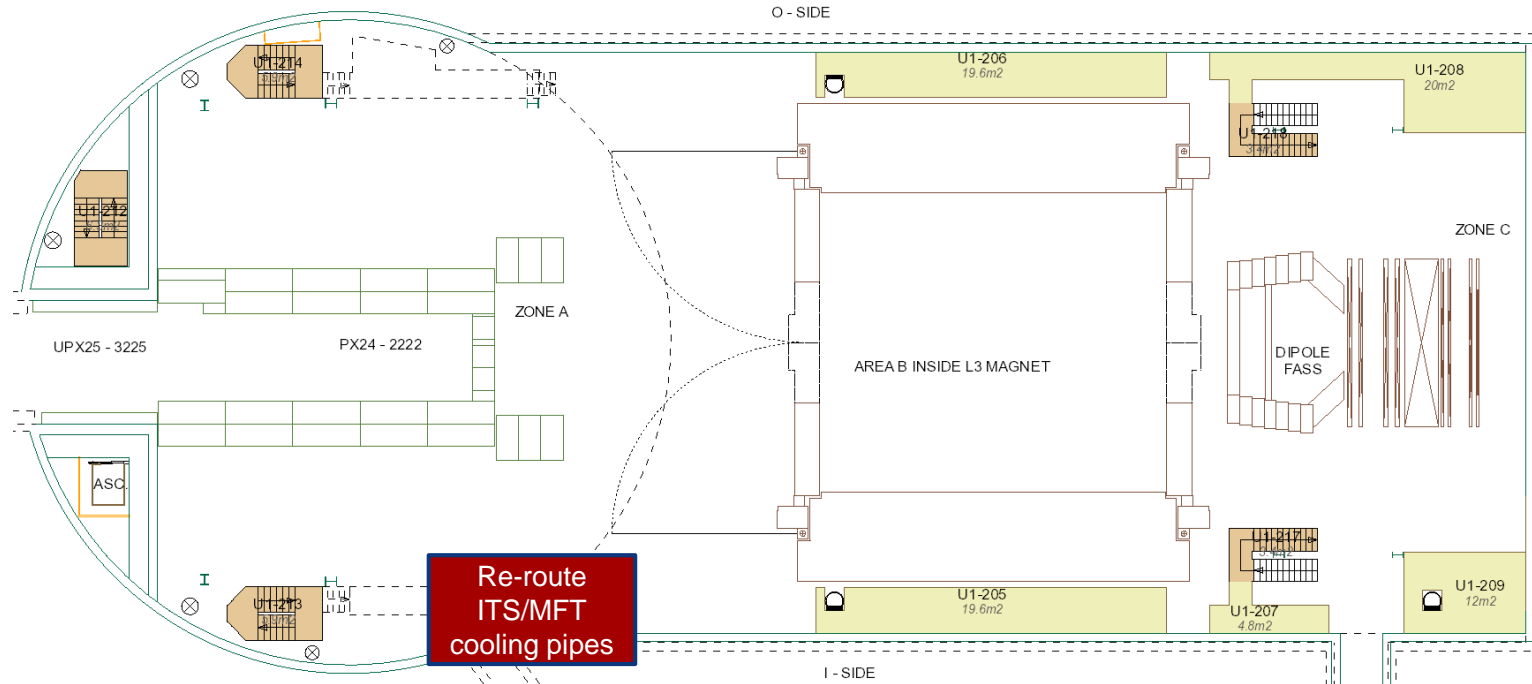
Remove scaffolding inside tent 6952



UX25 activities w10 – Thu 5 Mar 2020

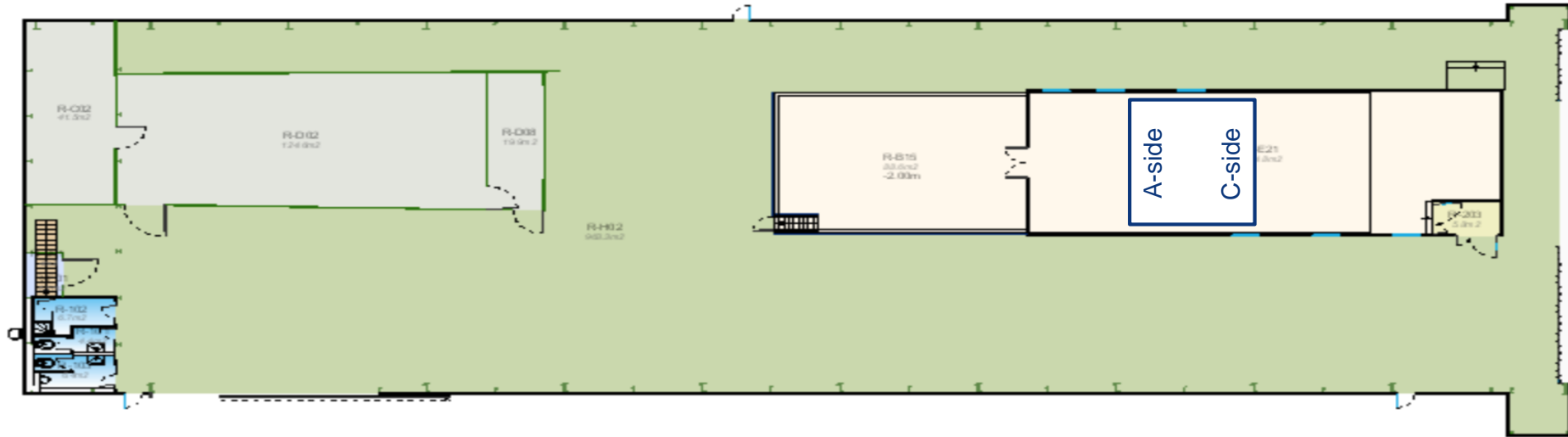


UX25 activities w10 – Fri 6 Mar 2020

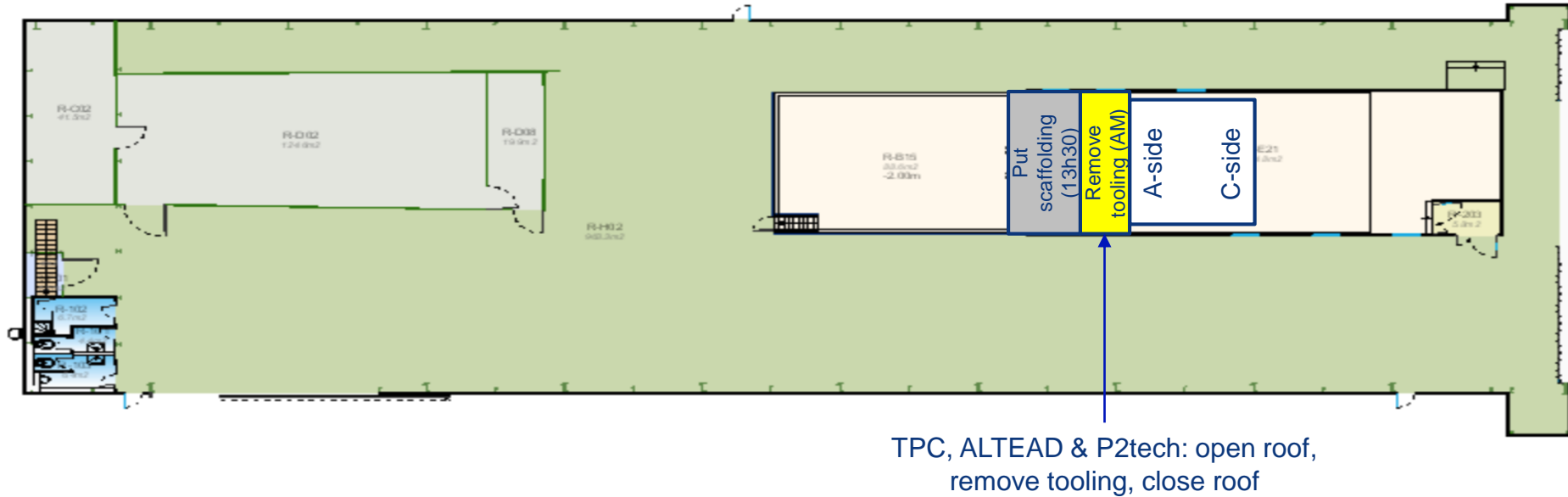


SXL2 activities w10 – Mon 2 Mar 2020

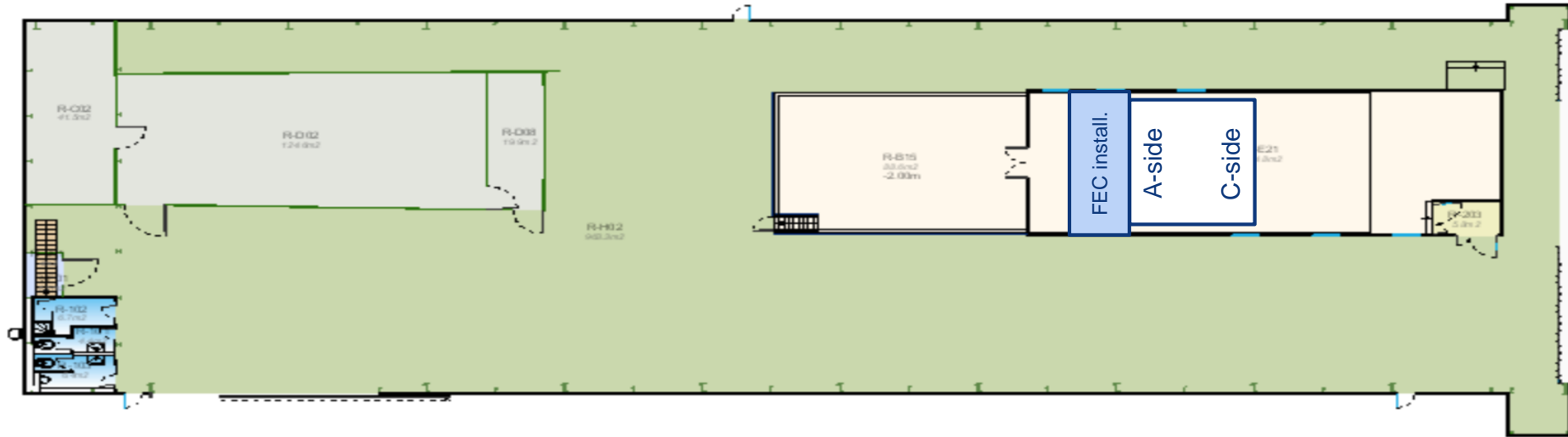
TPC: replace gas mixture with Ne-CO₂-N₂



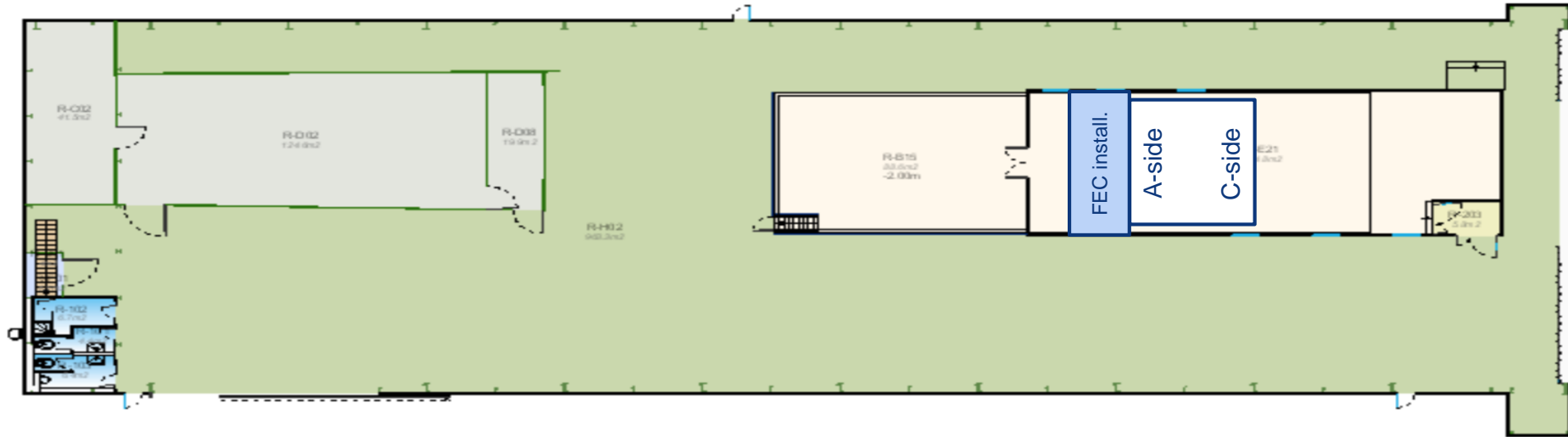
SXL2 activities w10 – Tue 3 Mar 2020



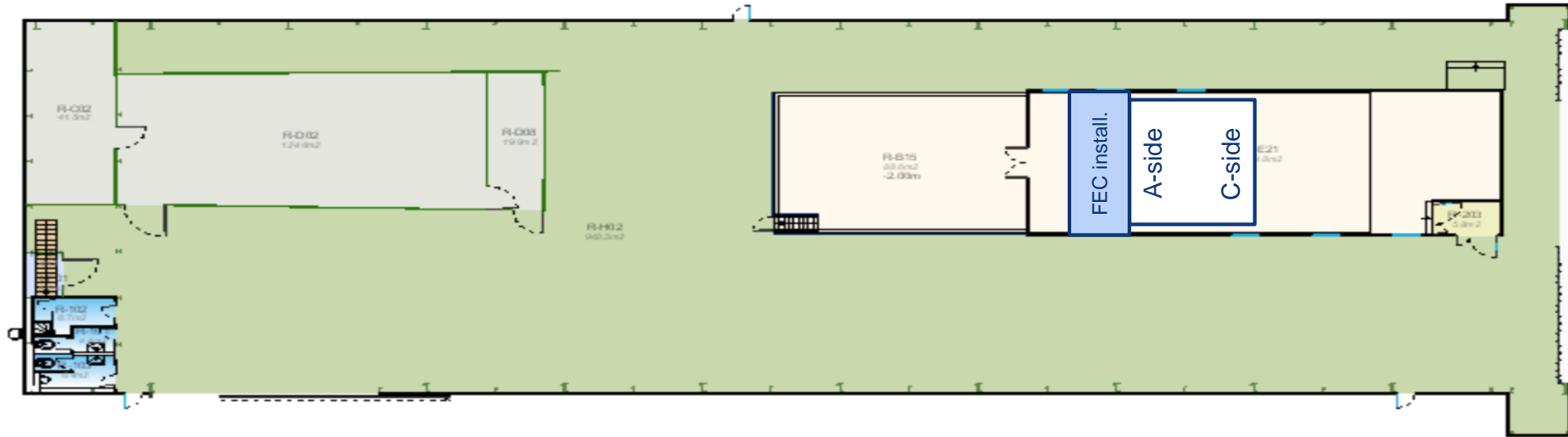
SXL2 activities w10 – Wed 4 Mar 2020



SXL2 activities w10 – Thu 5 Mar 2020

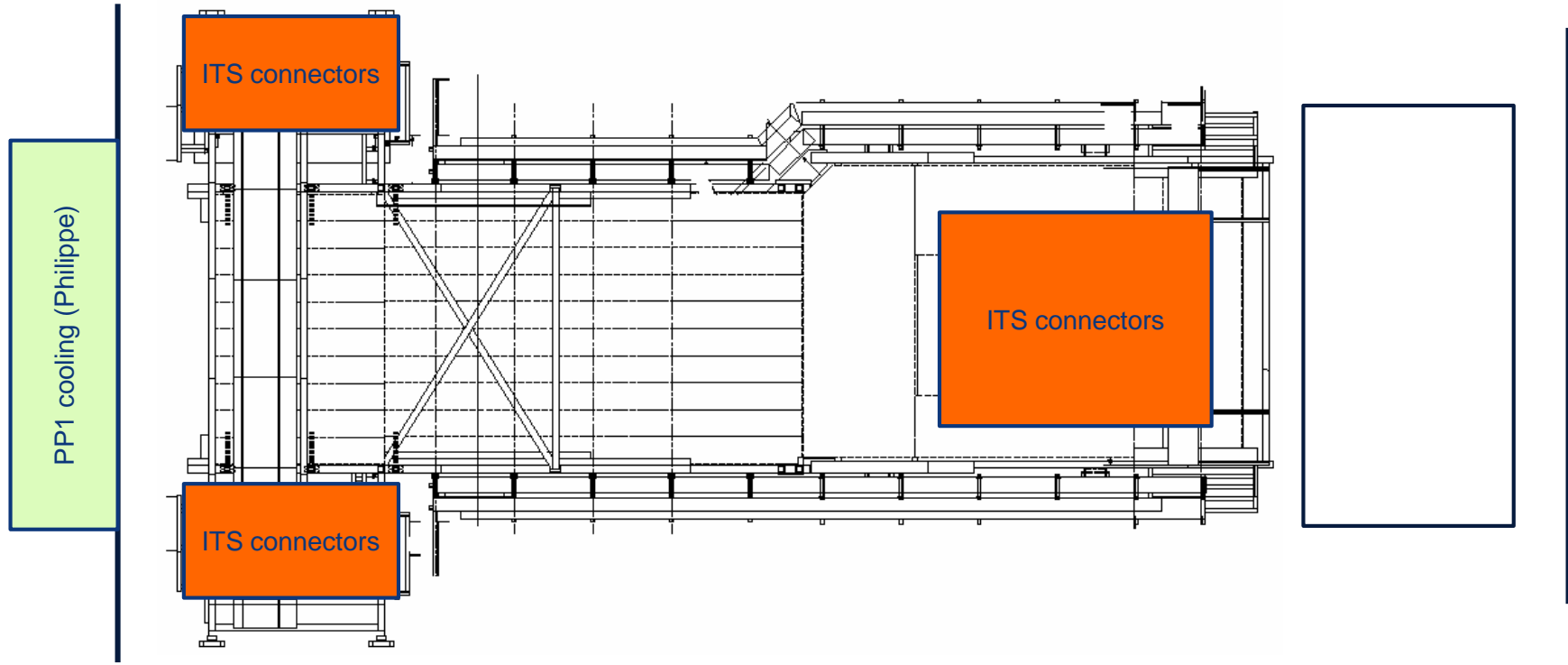


SXL2 activities w10 – Fri 6 Mar 2020

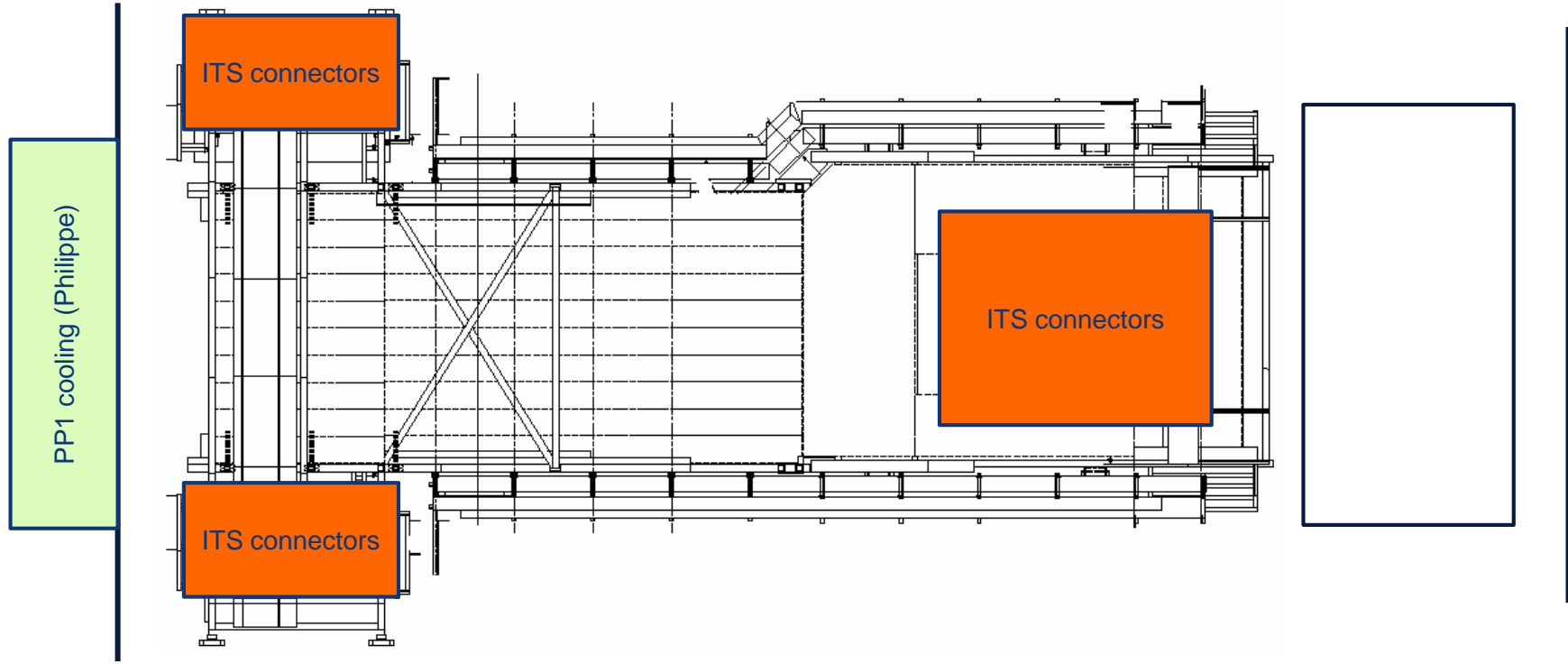


Miniframe activities w10 – Mon 2 Mar 2020

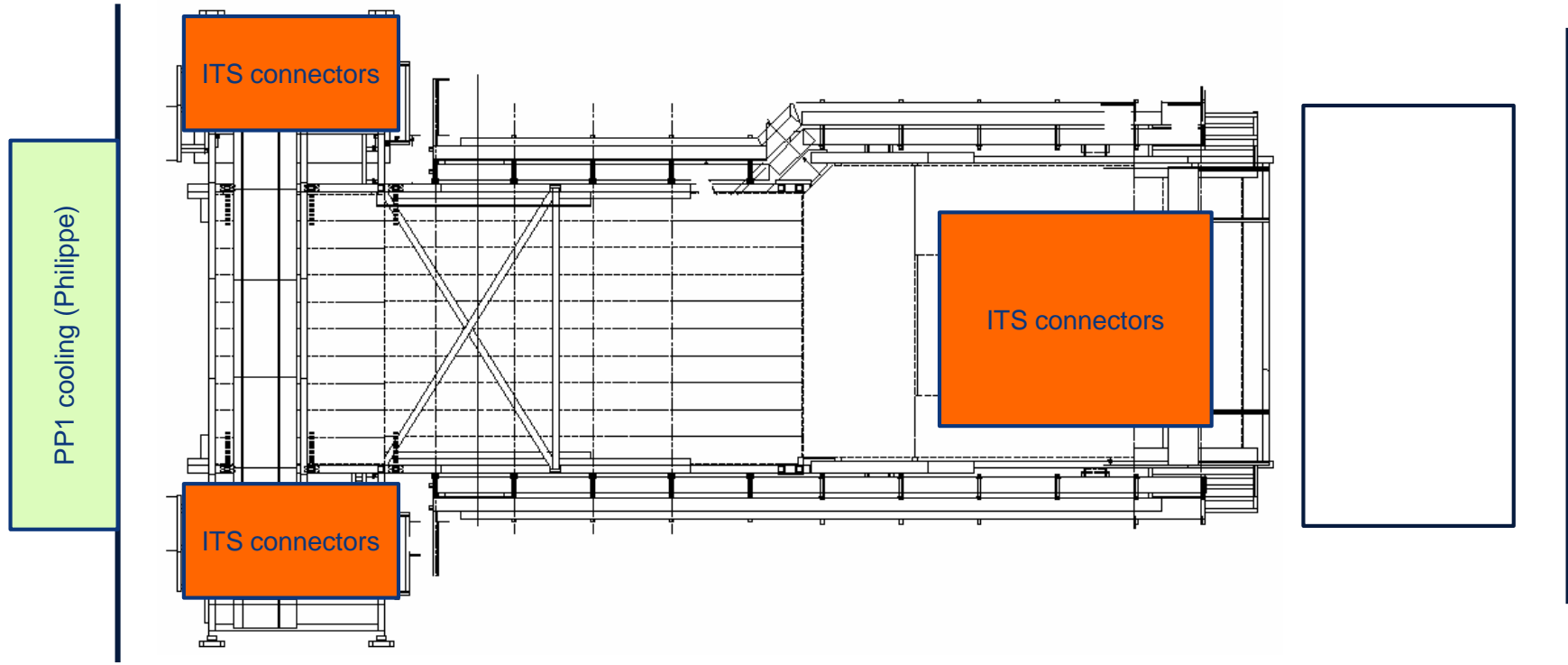
Cleaning miniframe (Elior): 7:00 to 8:00



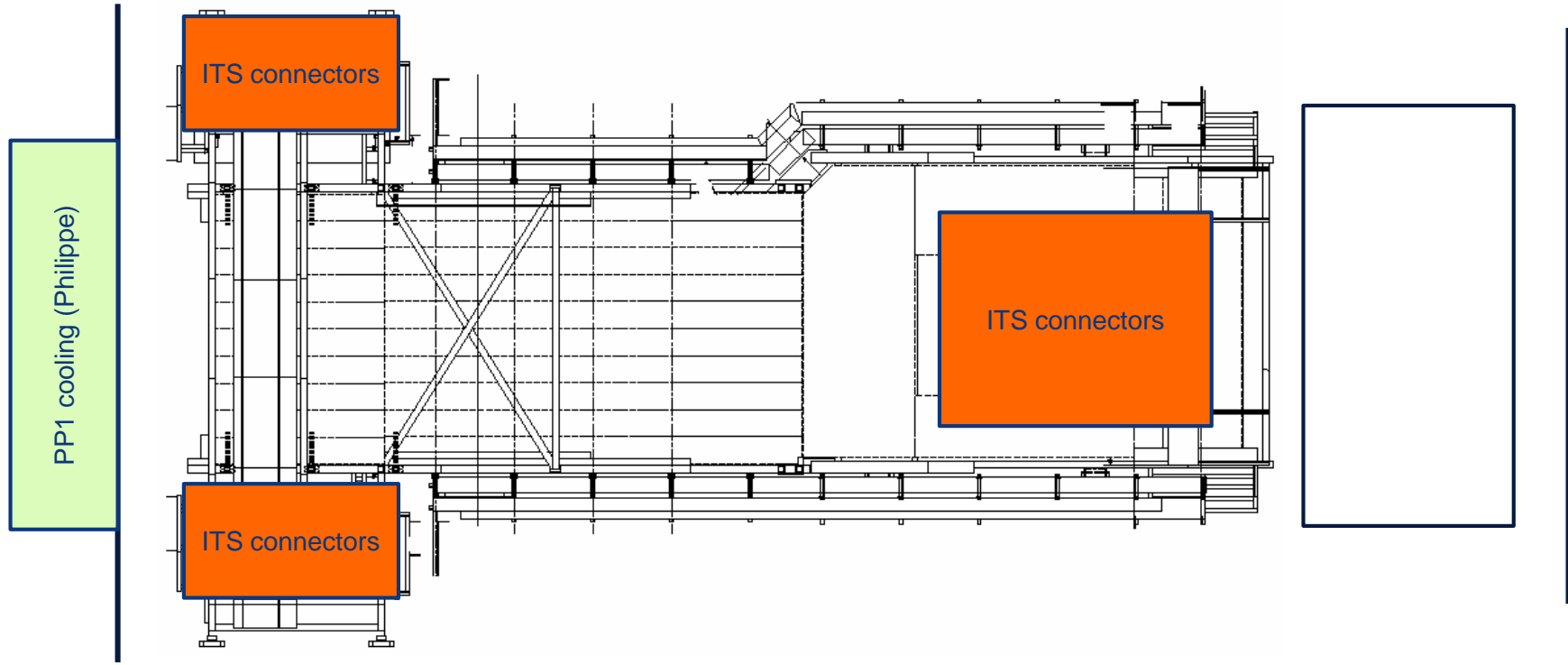
Miniframe activities w10 – Tue 3 Mar 2020



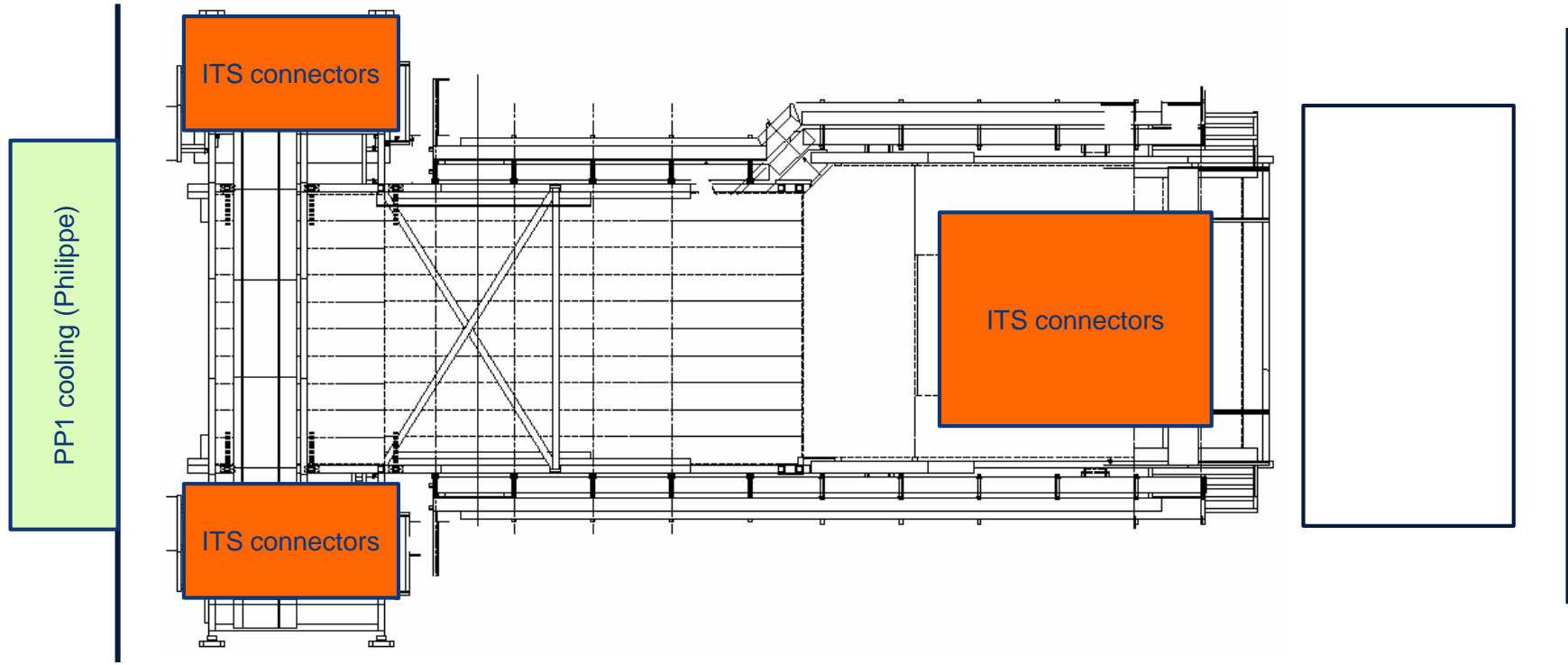
Miniframe activities w10 – Wed 4 Mar 2020



Miniframe activities w10 – Thu 5 Mar 2020



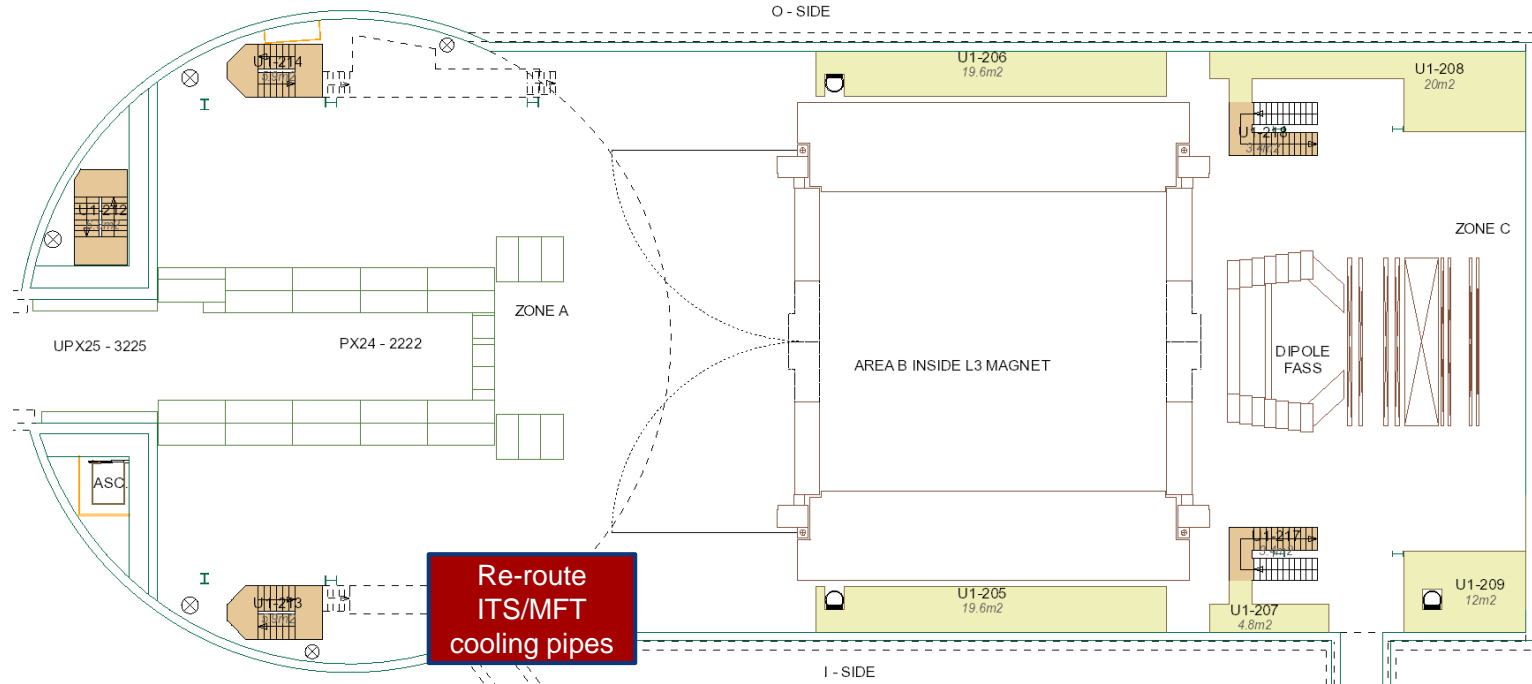
Miniframe activities w10 – Fri 6 Mar 2020



Day-by-day sequence w11



UX25 activities w11 – Mon 9 Mar 2020

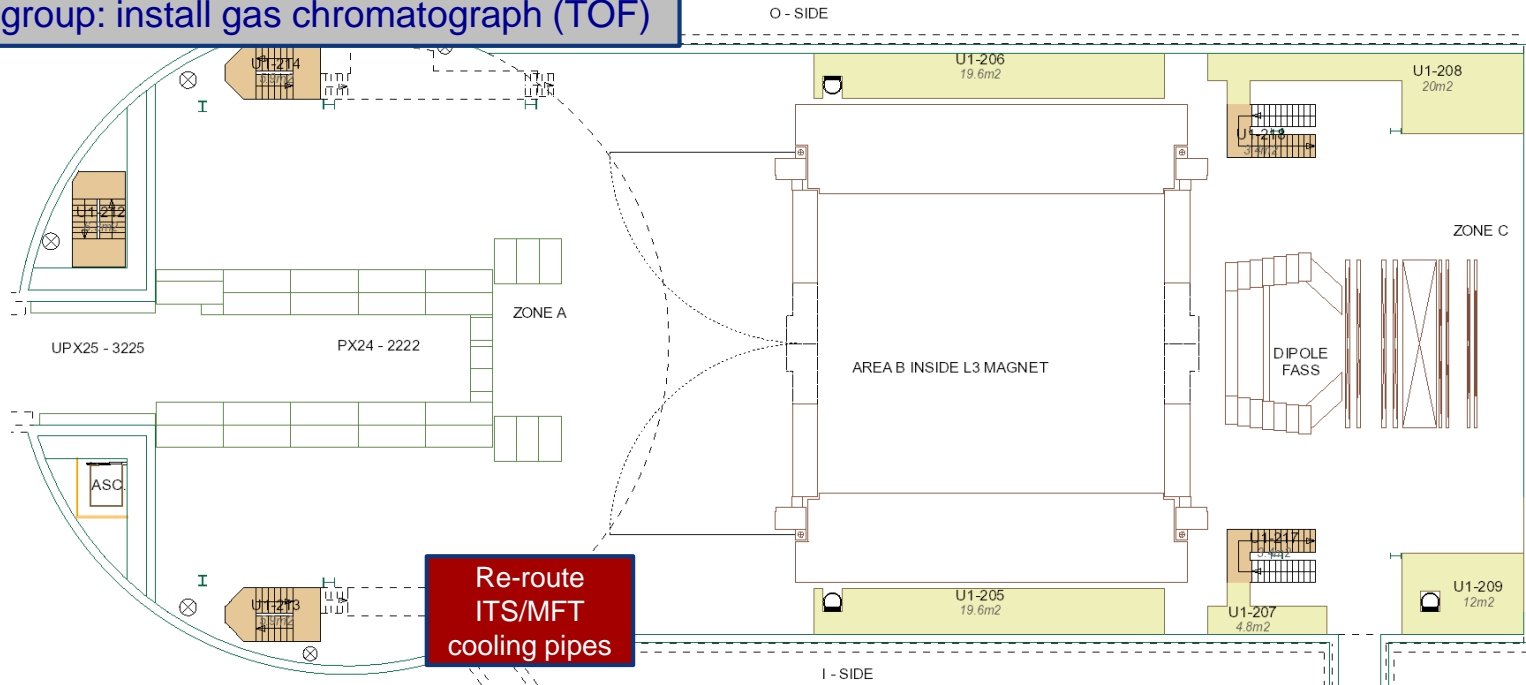


UX25 activities w11 – Tue 10 Mar 2020

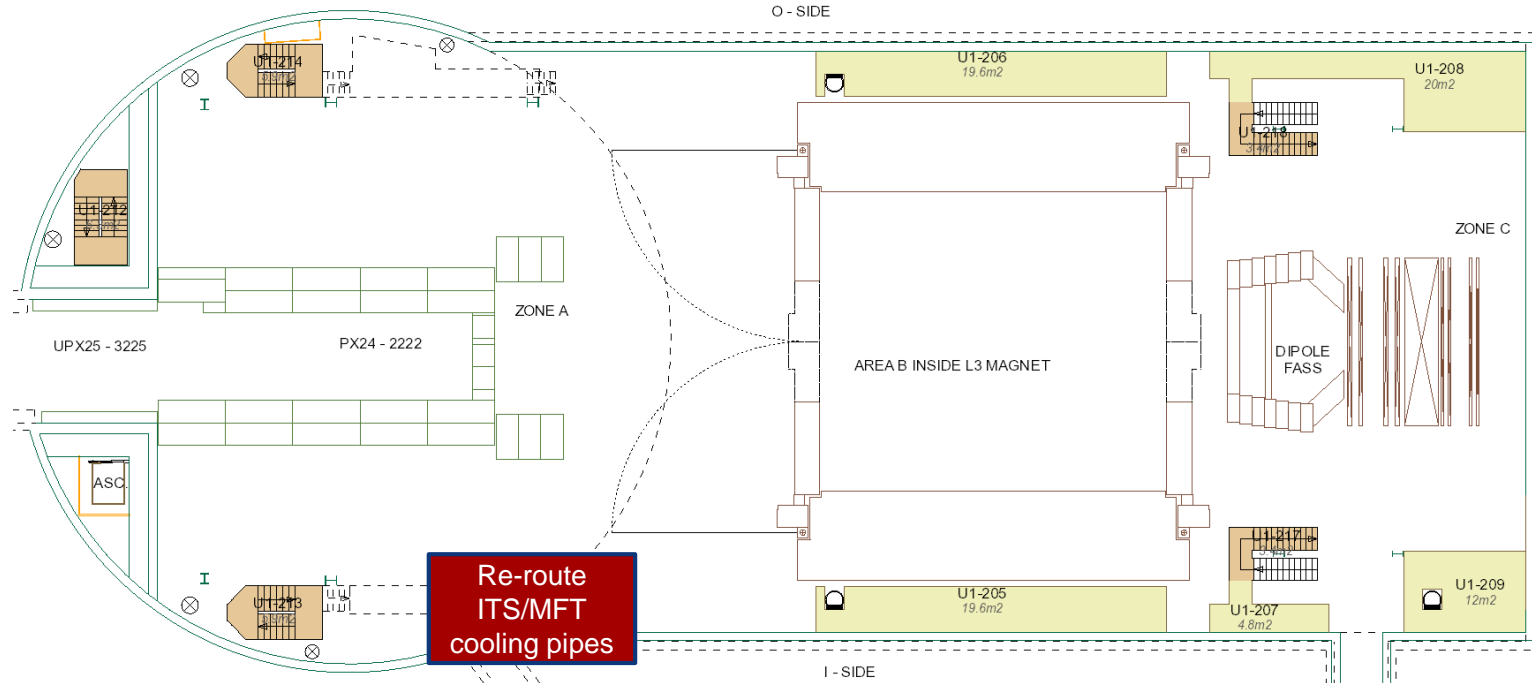
Cleaning cavern (Topnet): 13:00 to 15:00

ALTEAD + HLT: remove old servers in CR2 (PM)

Gas group: install gas chromatograph (TOF)

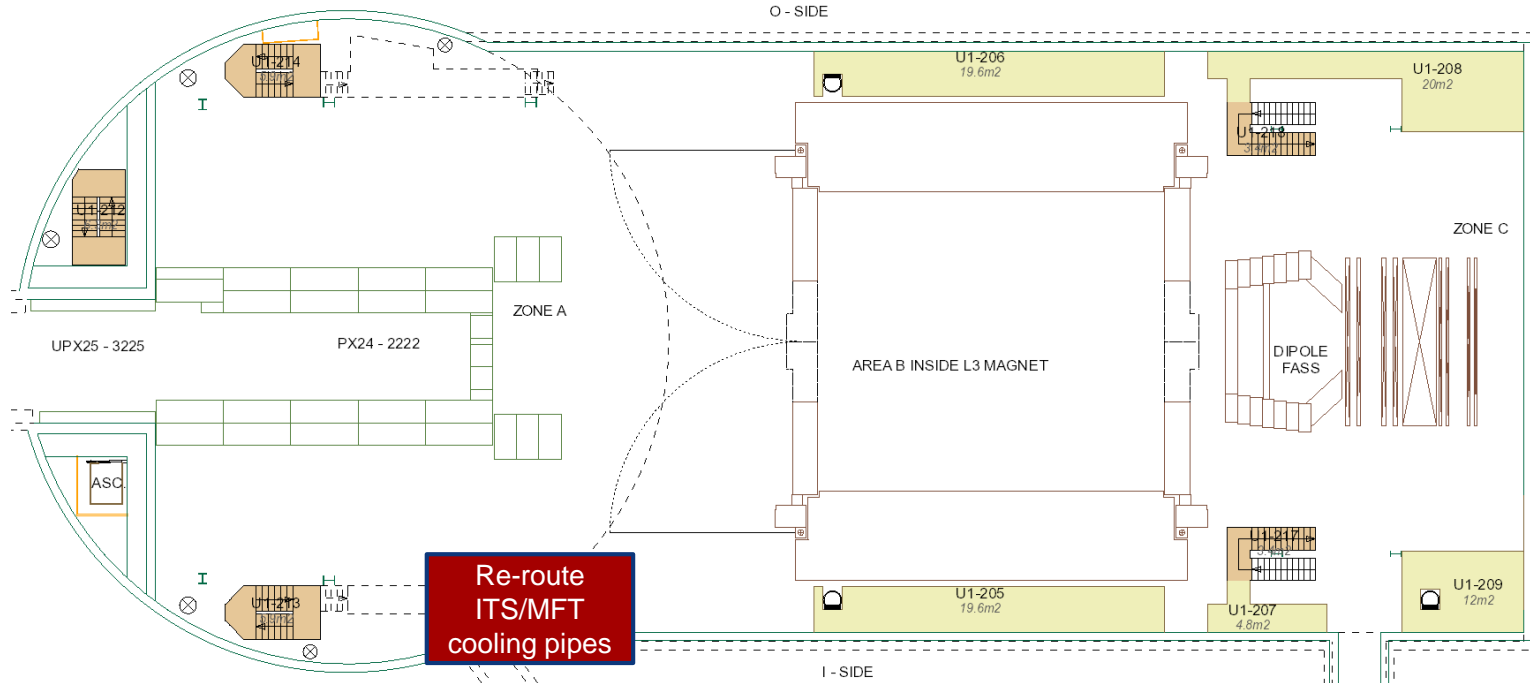


UX25 activities w11 – Wed 11 Mar 2020

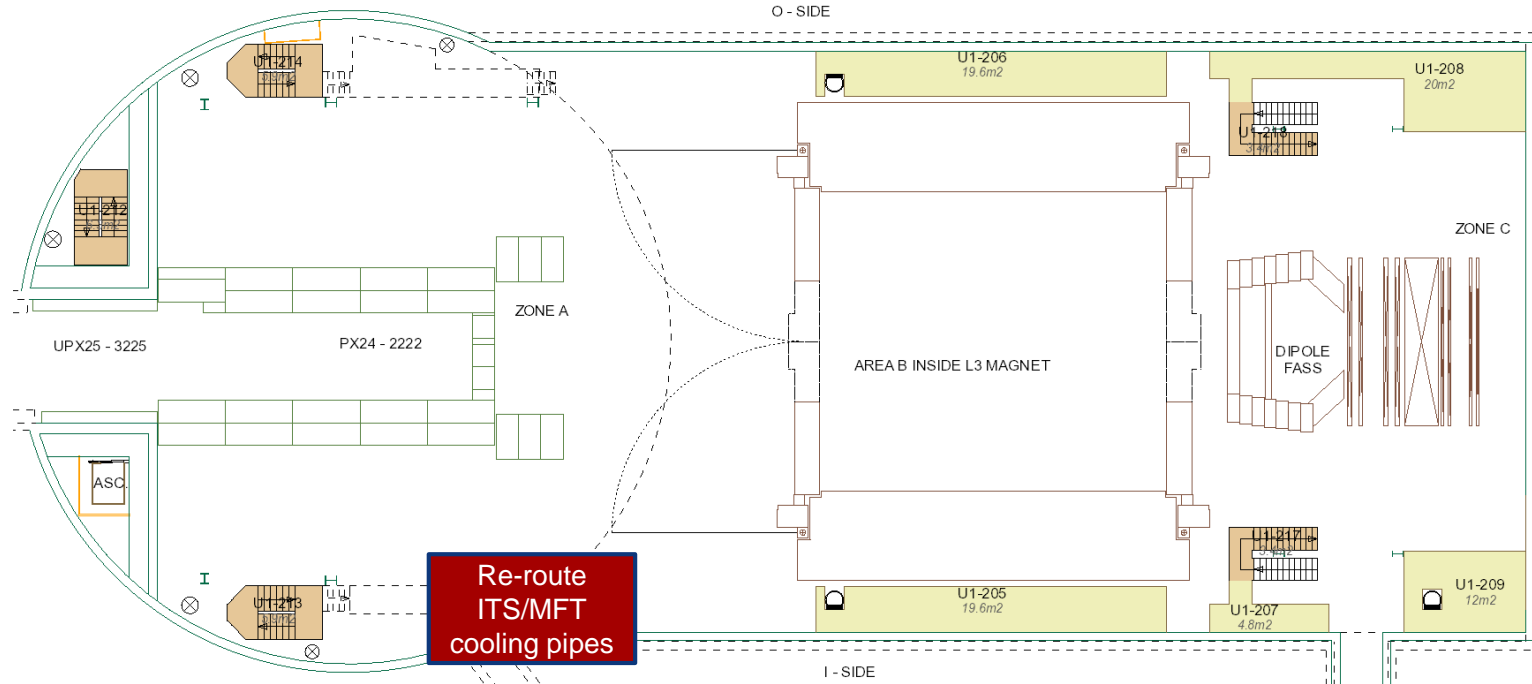


UX25 activities w11 – Thu 12 Mar 2020

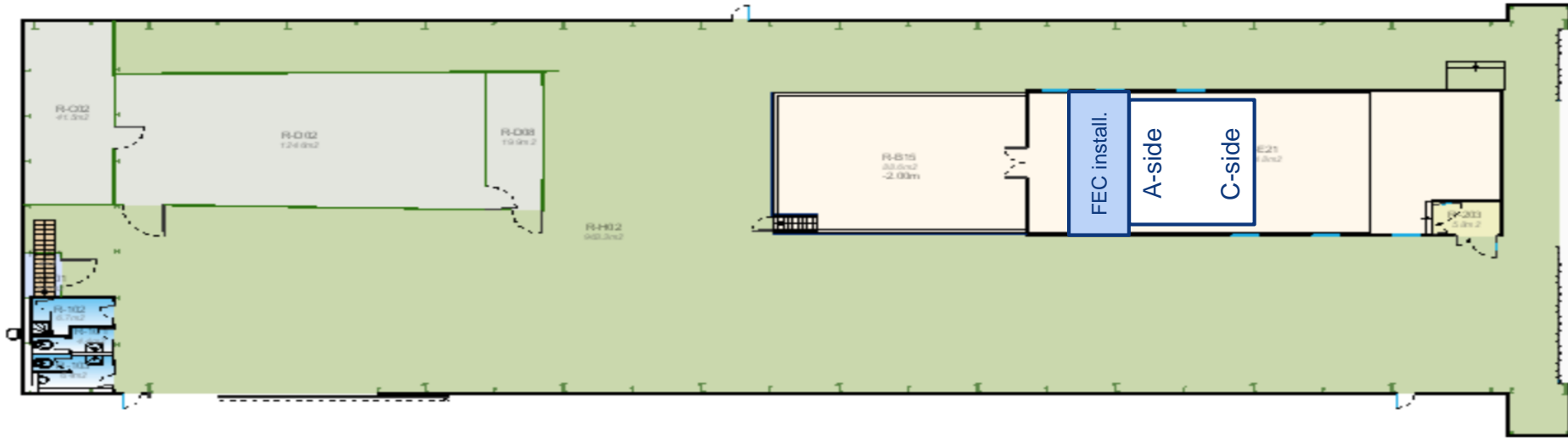
ALTEAD: remove L3 ventilation SXS2



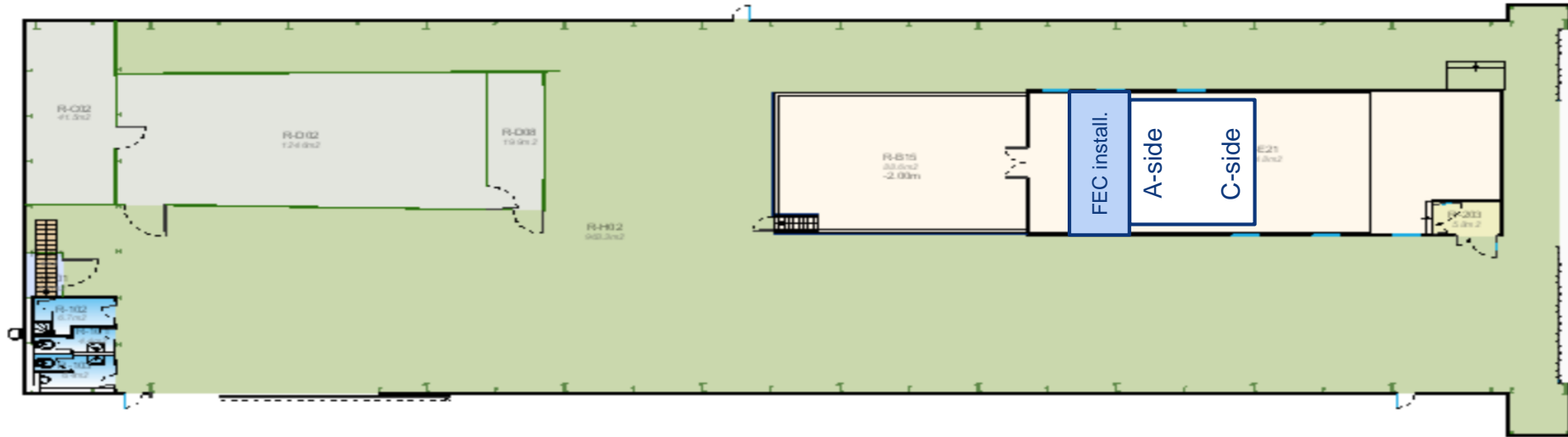
UX25 activities w11 – Fri 13 Mar 2020



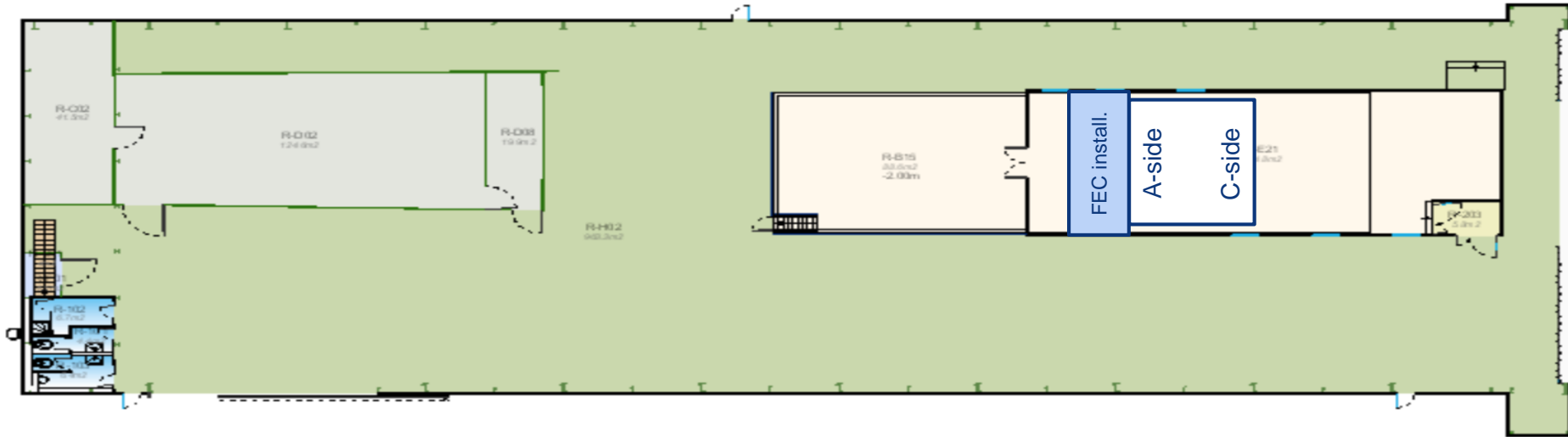
SXL2 activities w11 – Mon 9 Mar 2020



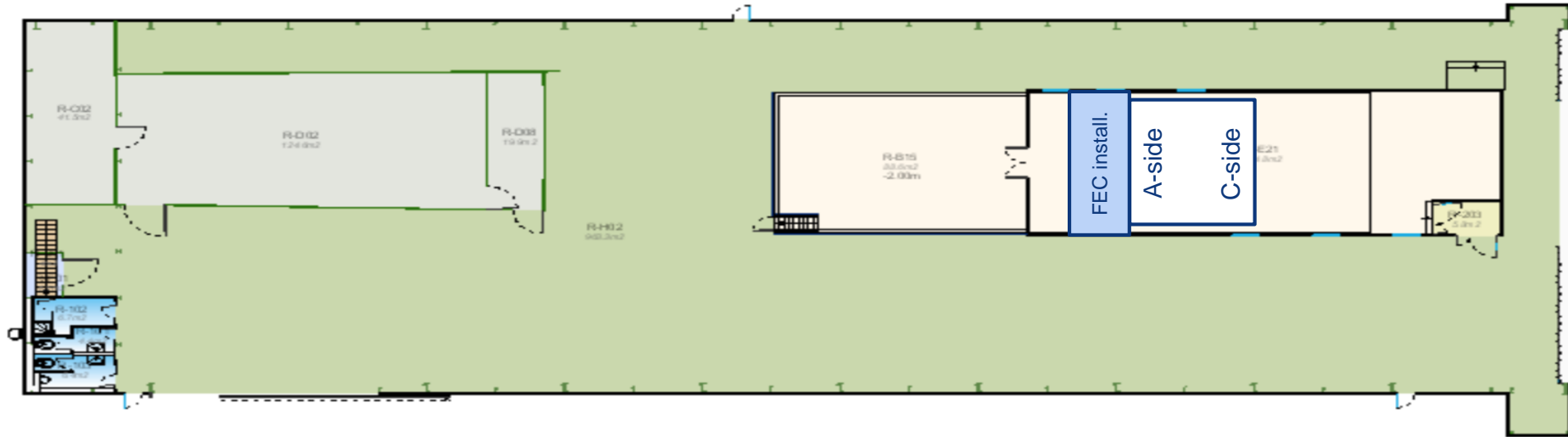
SXL2 activities w11 – Tue 10 Mar 2020



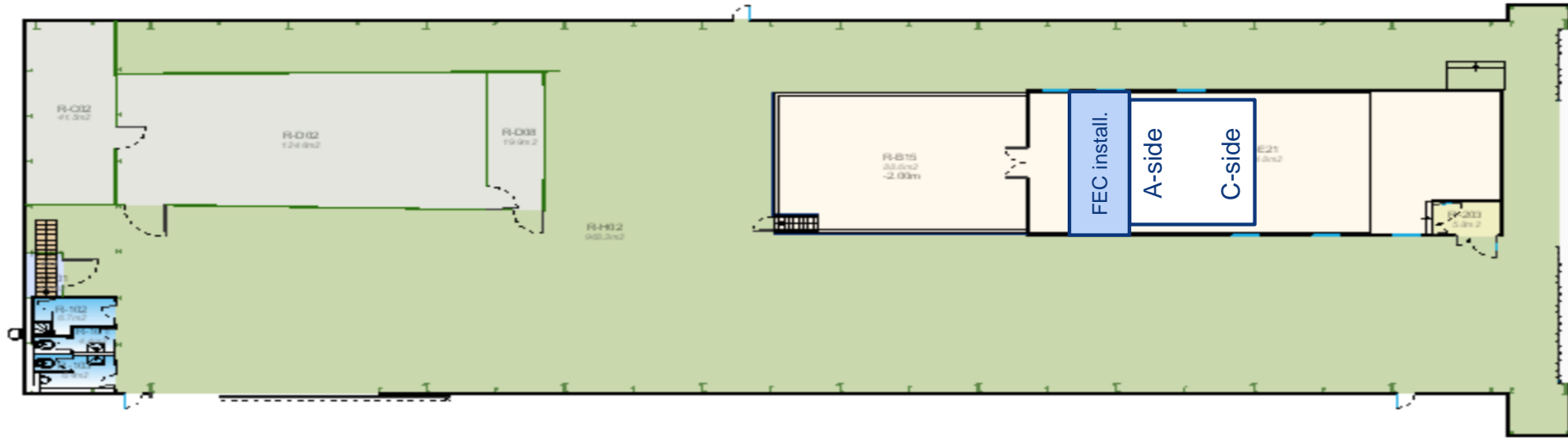
SXL2 activities w11 – Wed 11 Mar 2020



SXL2 activities w11 – Thu 12 Mar 2020

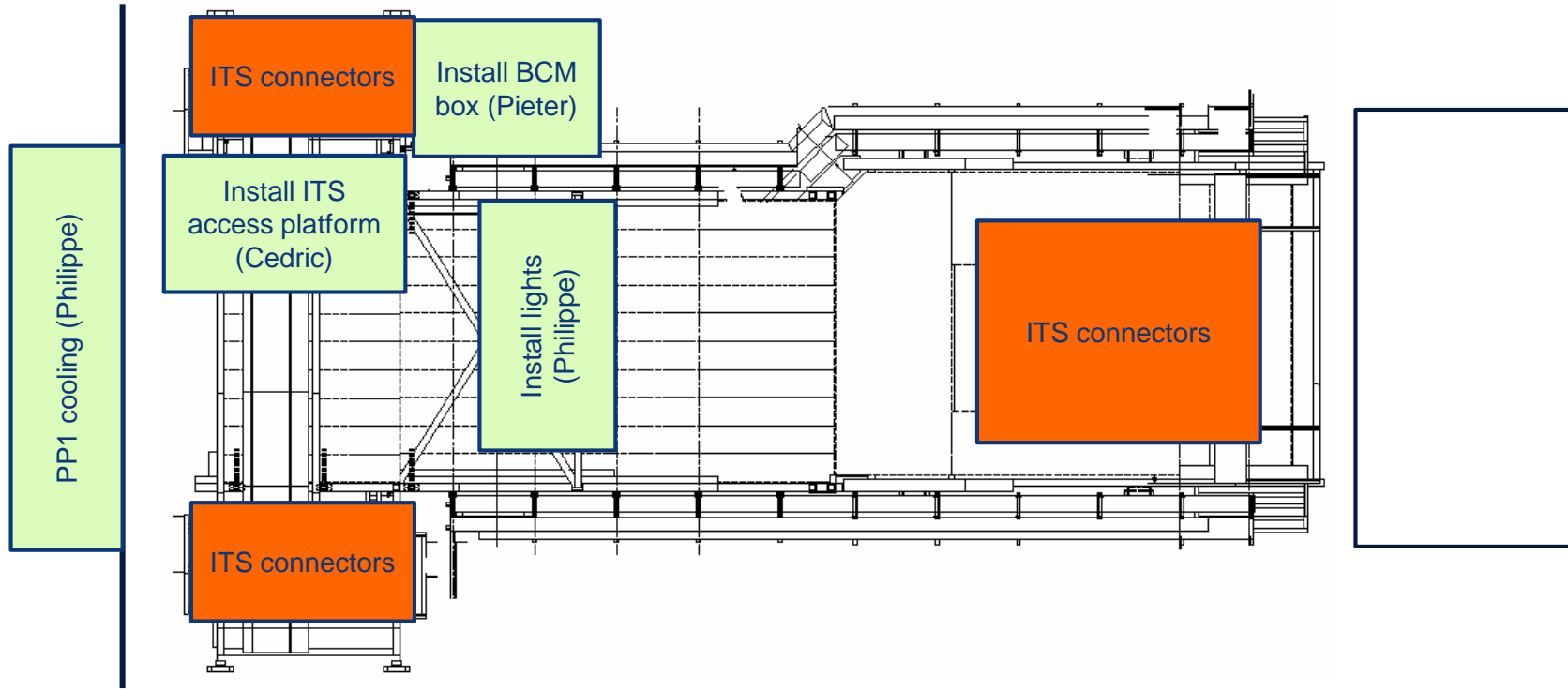


SXL2 activities w11 – Fri 13 Mar 2020

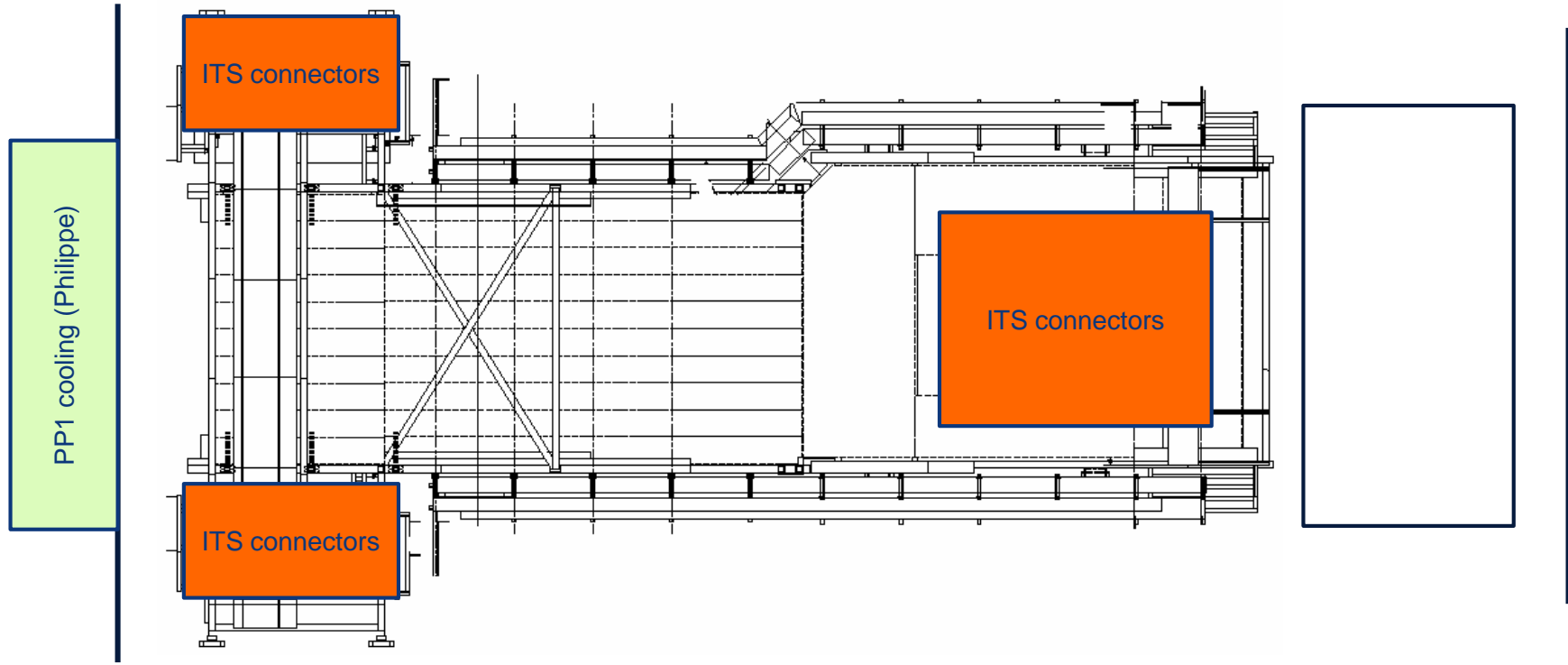


Miniframe activities w11 – Mon 9 Mar 2020

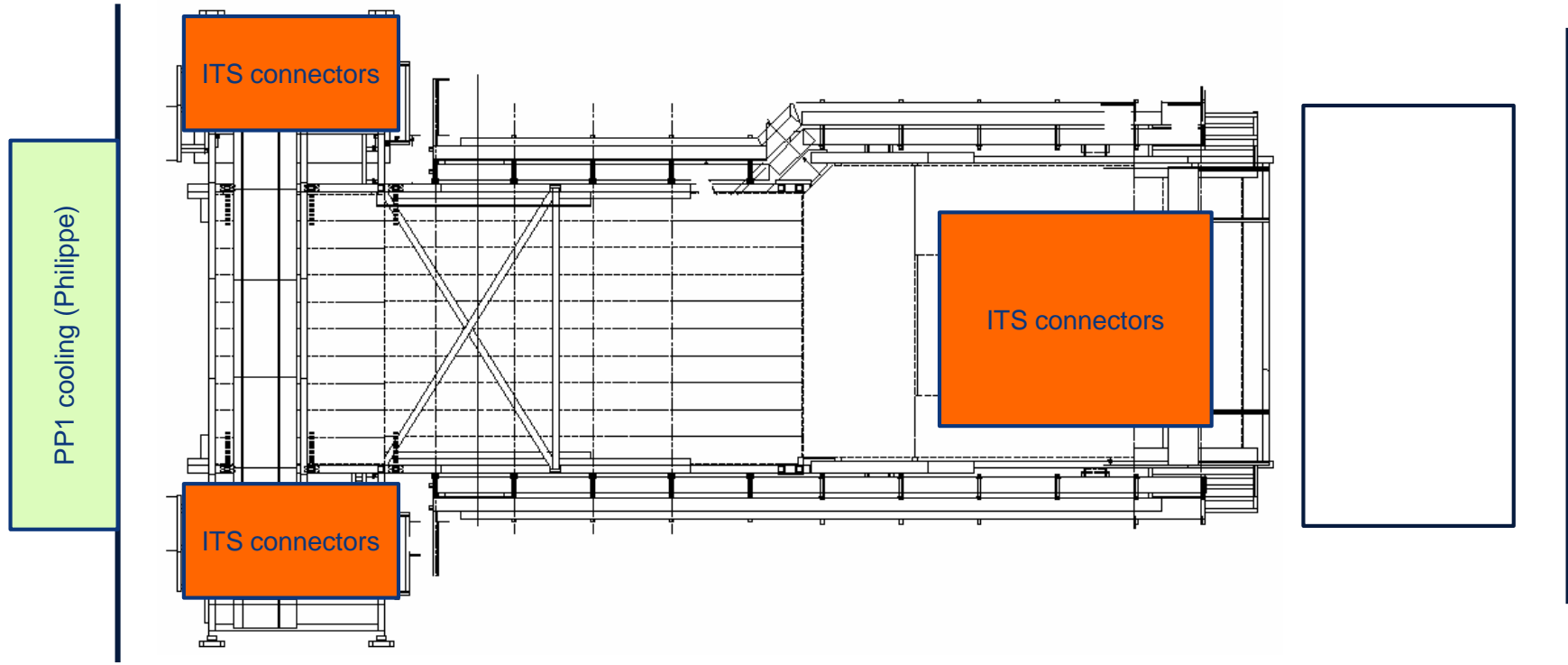
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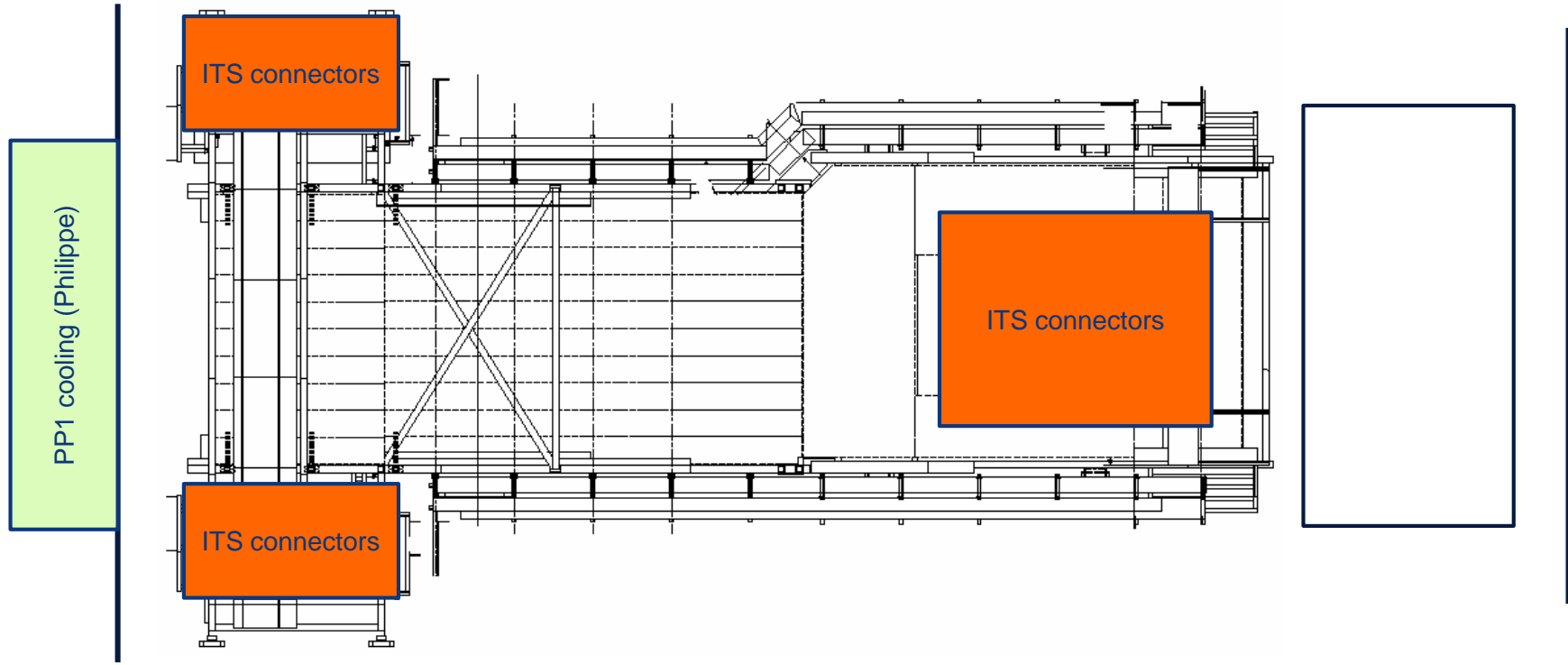
Miniframe activities w11 – Tue 10 Mar 2020



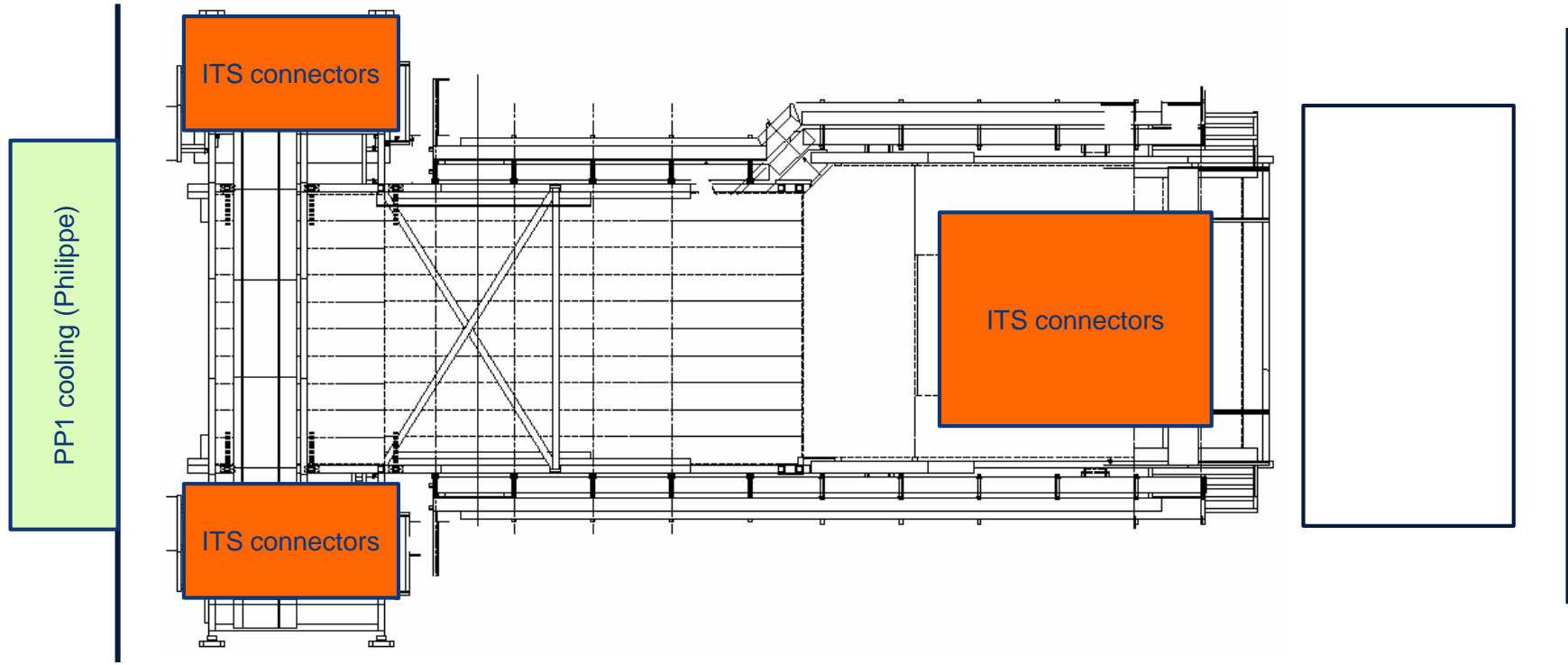
Miniframe activities w11 – Wed 11 Mar 2020



Miniframe activities w11 – Thu 12 Mar 2020



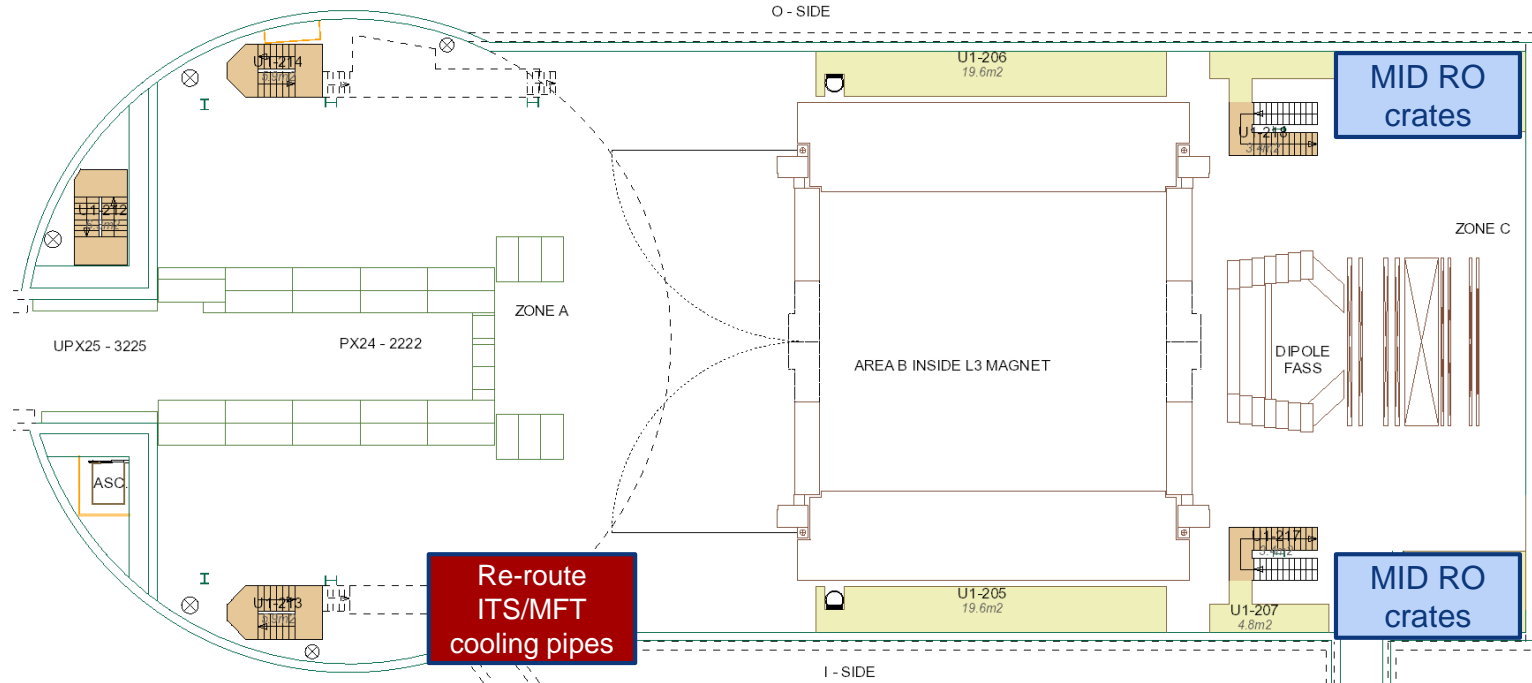
Miniframe activities w11 – Fri 13 Mar 2020



Day-by-day sequence w12

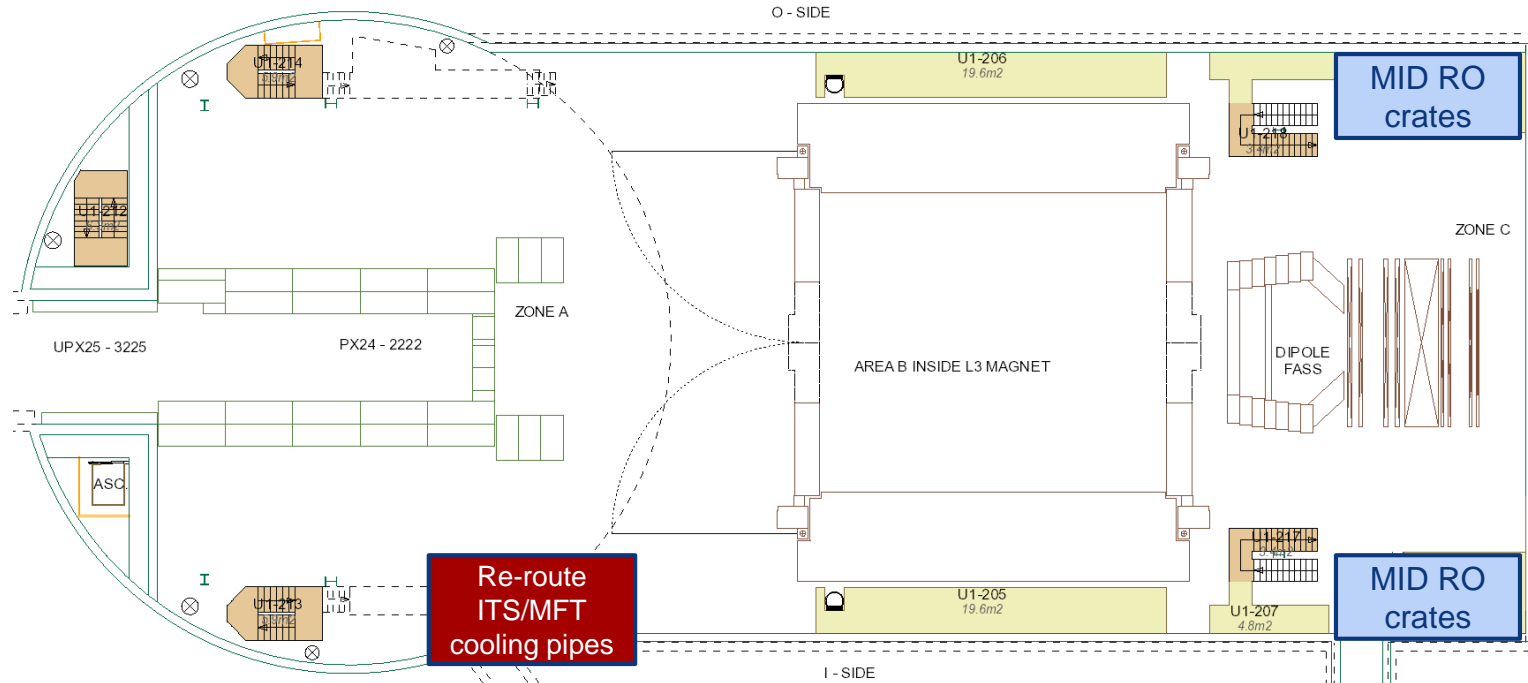


UX25 activities w12 – Mon 16 Mar 2020

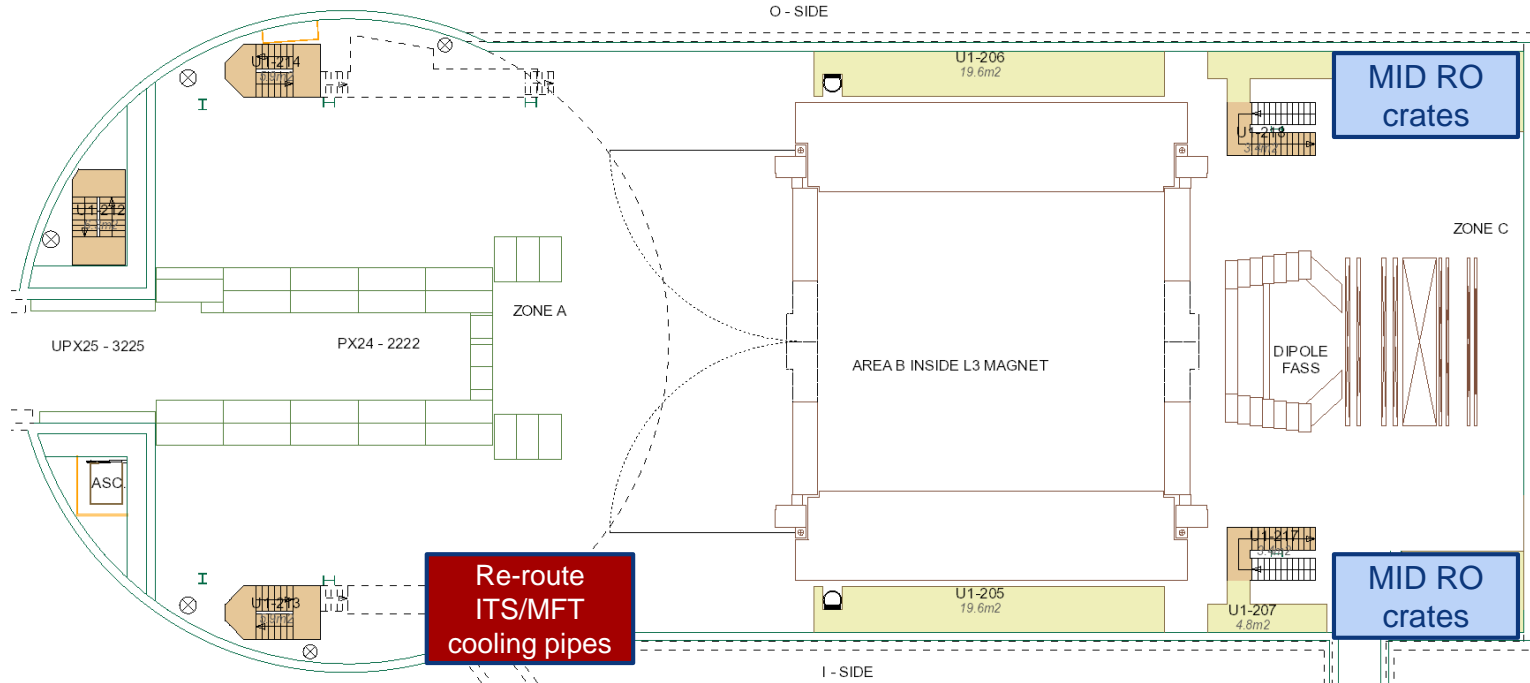


UX25 activities w12 – Tue 17 Mar 2020

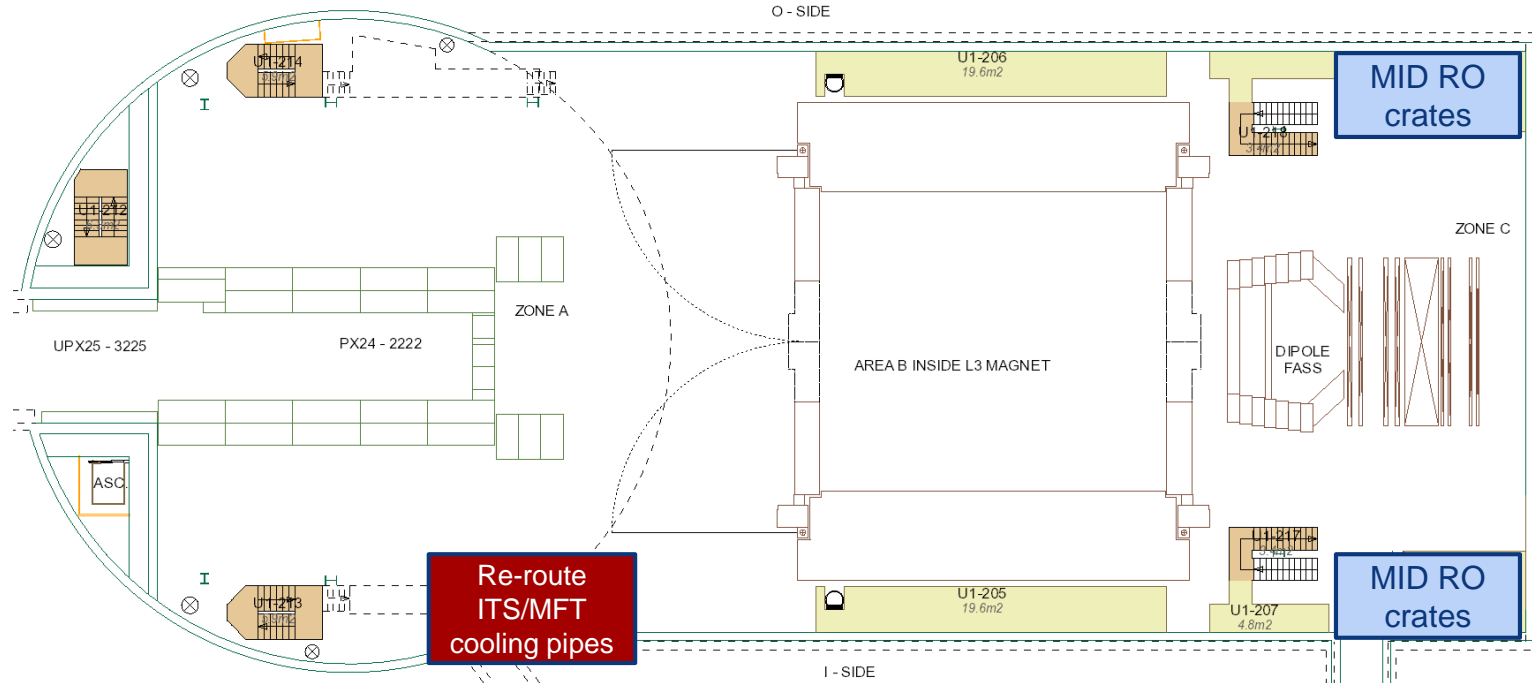
Cleaning cavern (Topnet): 13:00 to 15:00



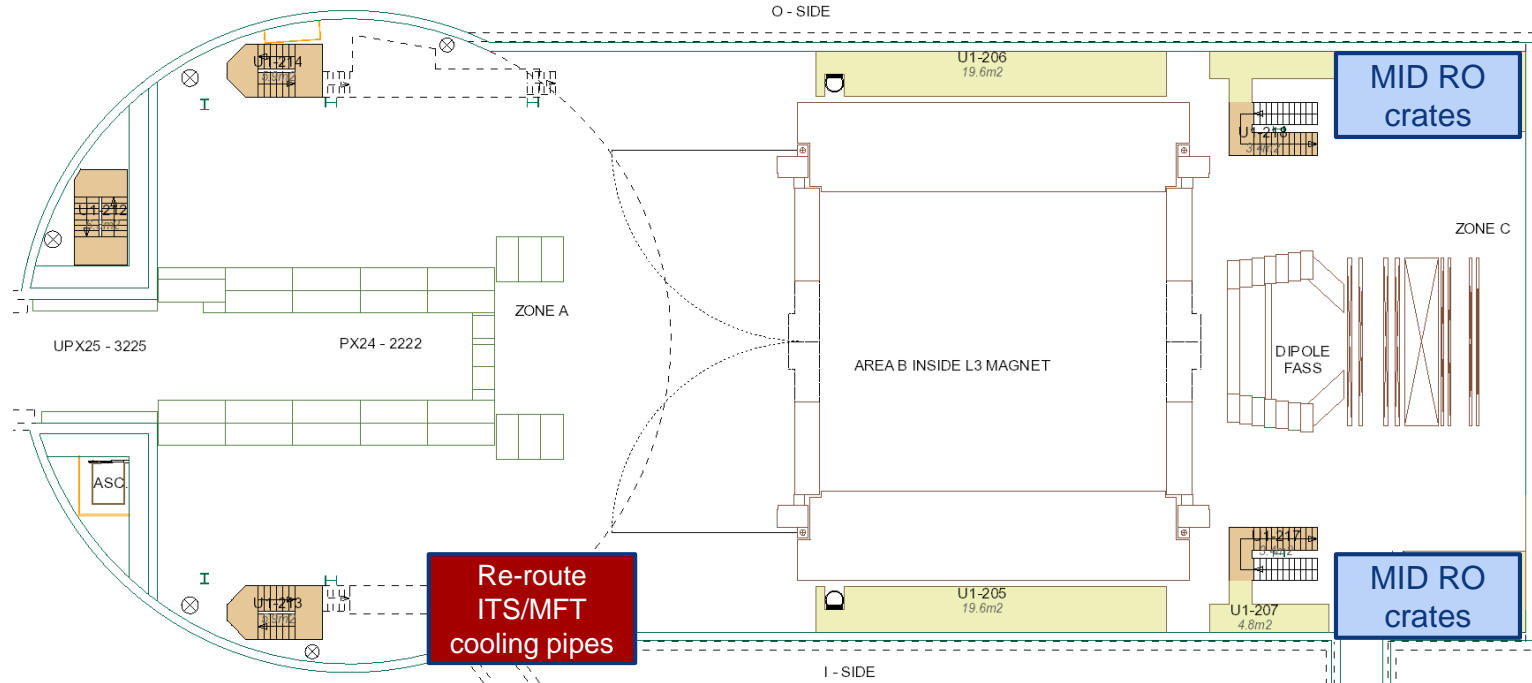
UX25 activities w12 – Wed 18 Mar 2020



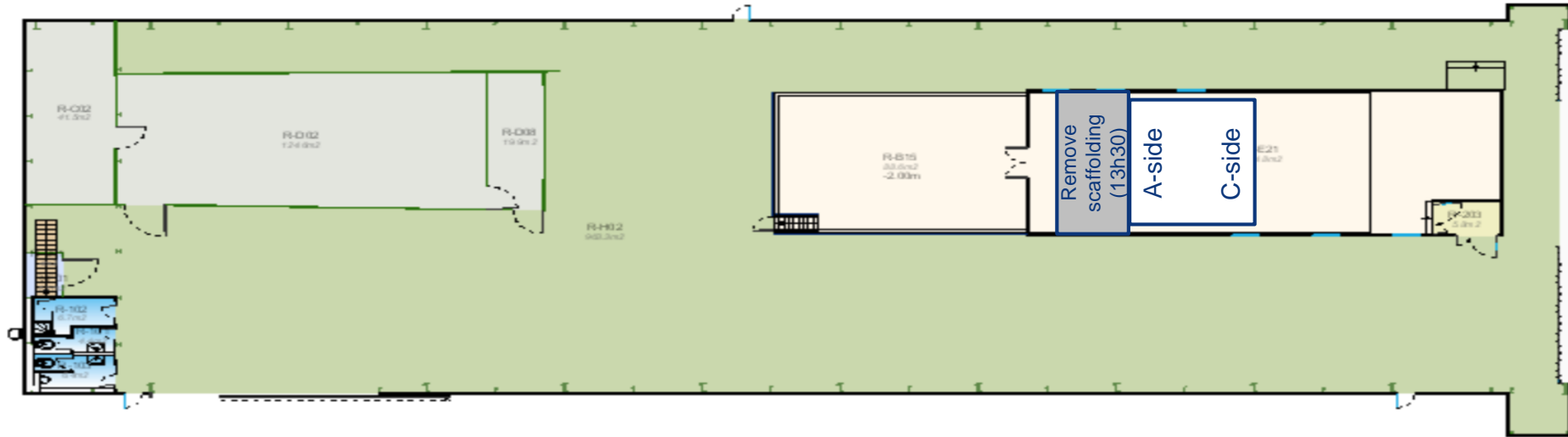
UX25 activities w12 – Thu 19 Mar 2020



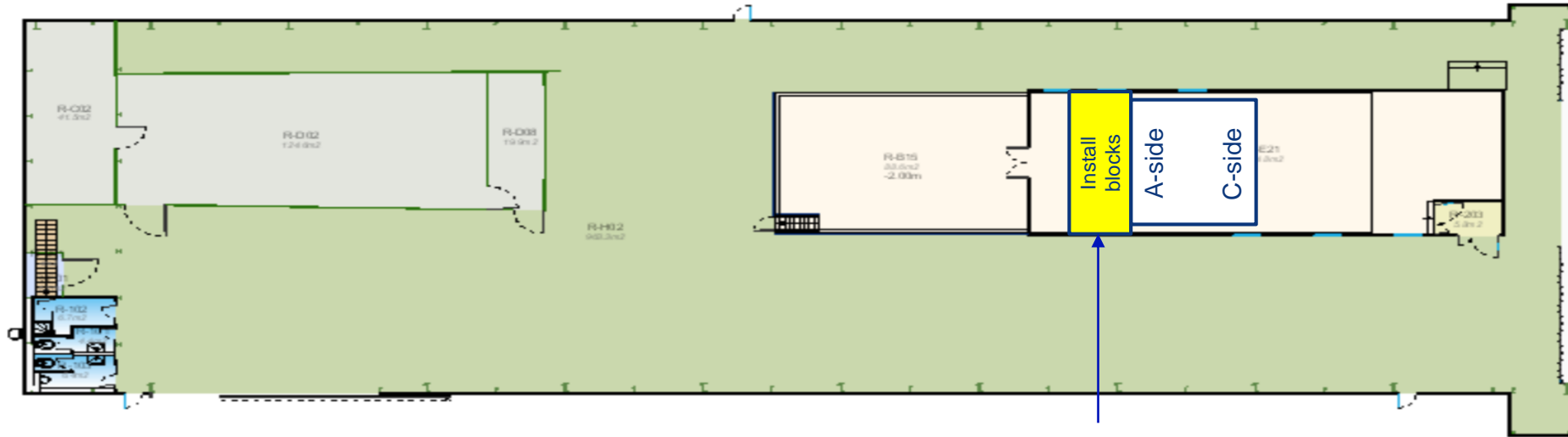
UX25 activities w12 – Fri 20 Mar 2020



SXL2 activities w12 – Mon 16 Mar 2020

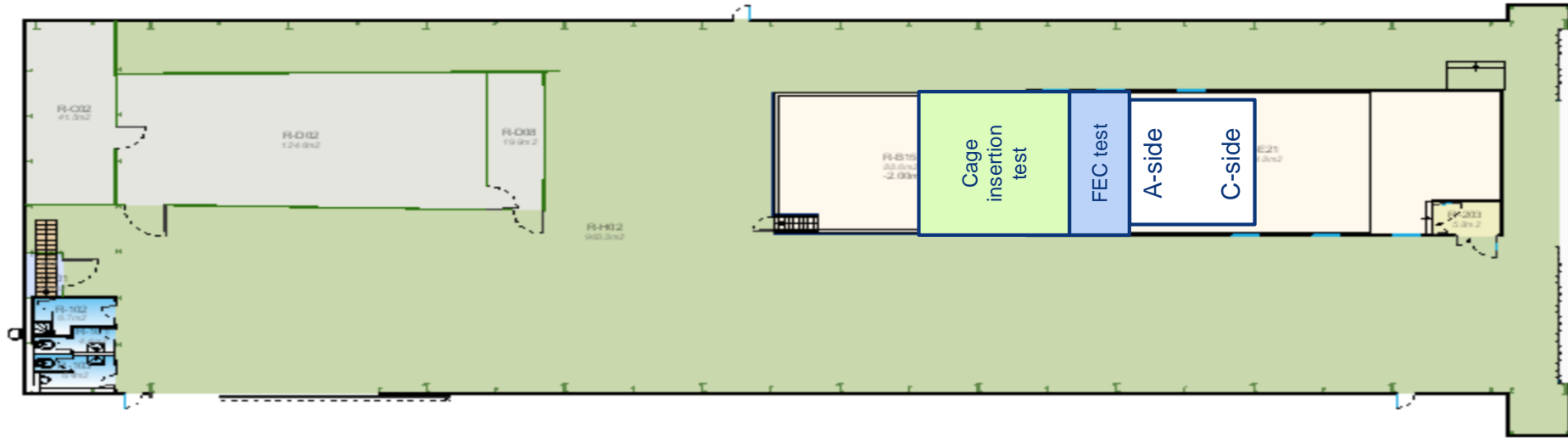


SXL2 activities w12 – Tue 17 Mar 2020

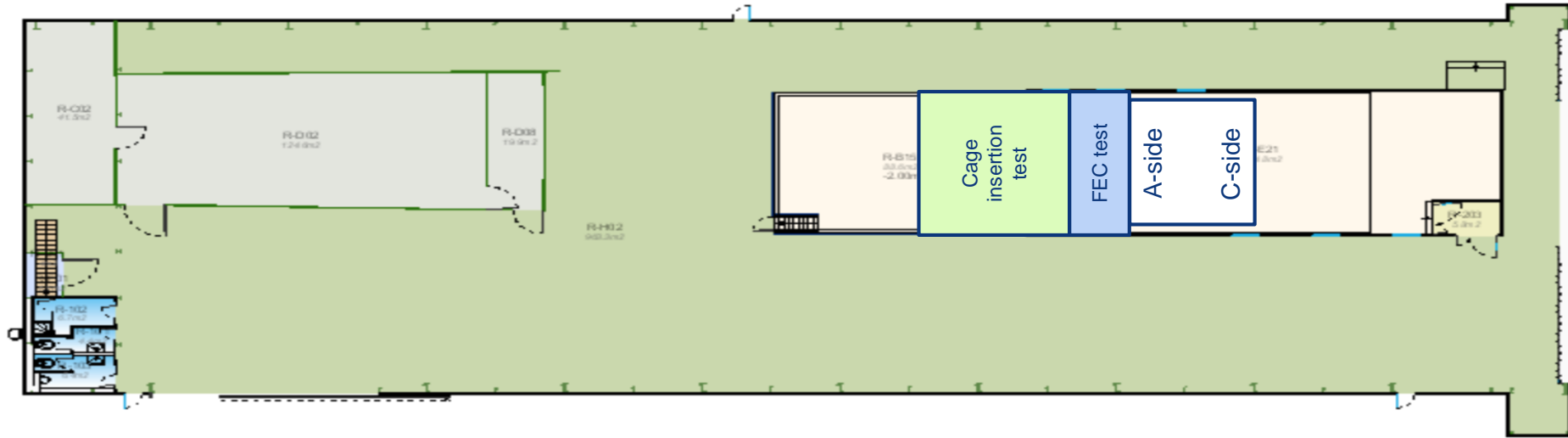


TPC, ALTEAD & P2tech: open roof,
install blocks for cage insertion test,
install nacelles. Roof stays open

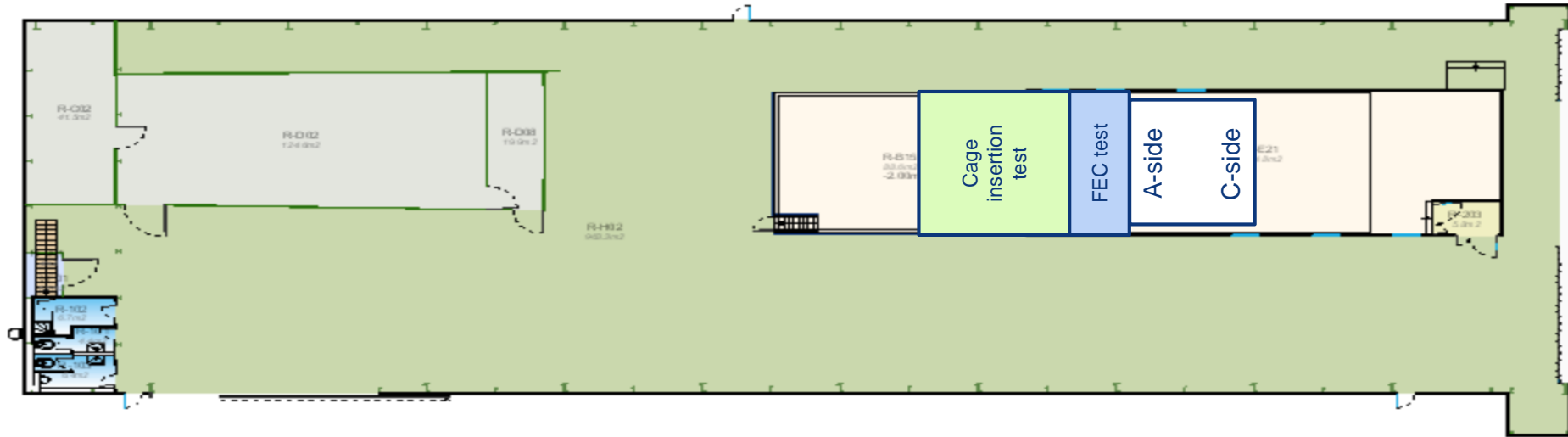
SXL2 activities w12 – Wed 18 Mar 2020



SXL2 activities w12 – Thu 19 Mar 2020

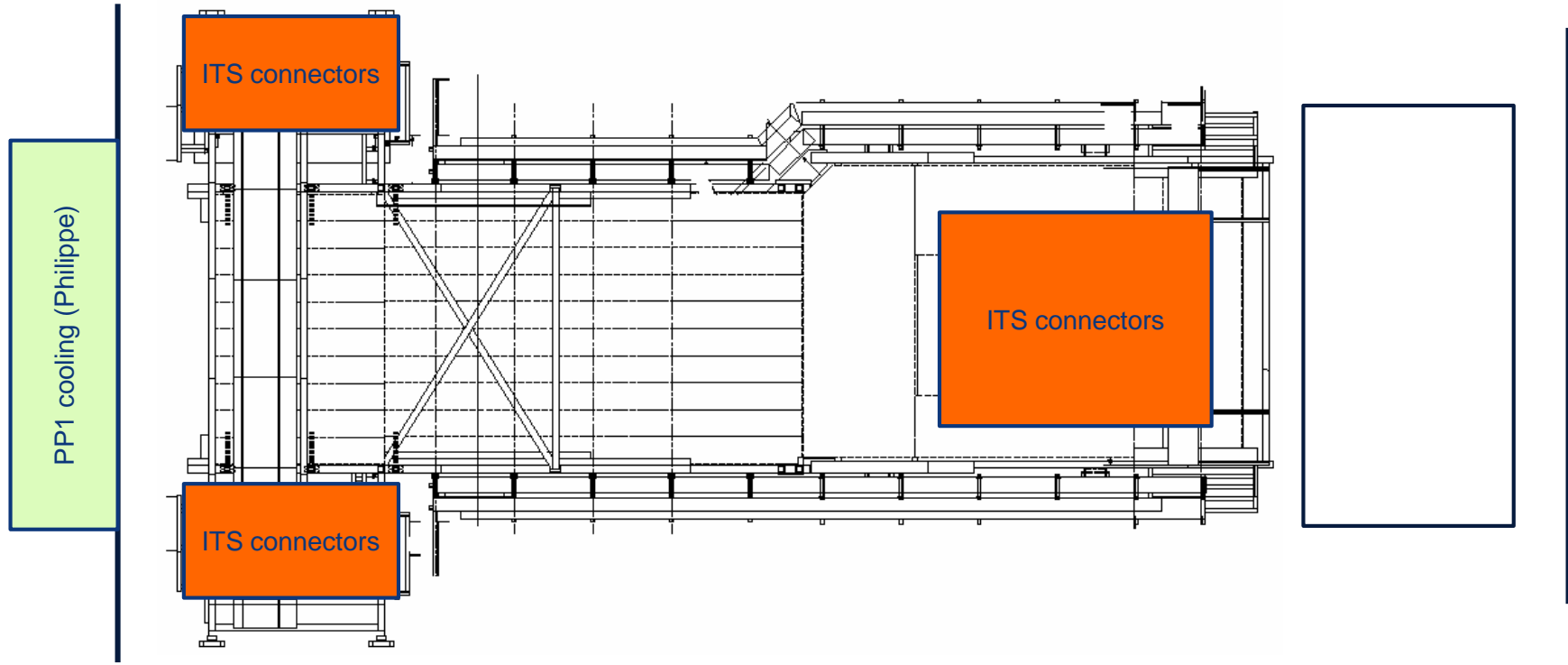


SXL2 activities w12 – Fri 20 Mar 2020

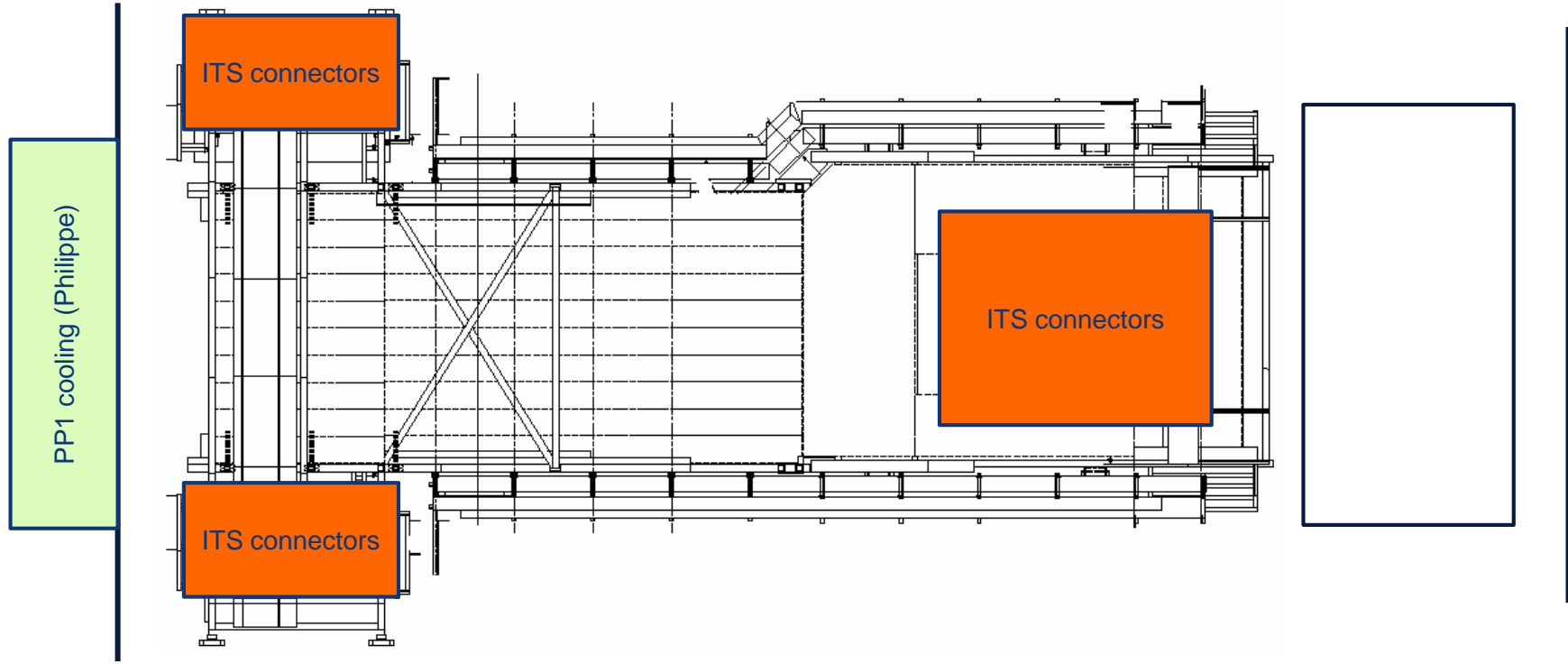


Miniframe activities w12 – Mon 16 Mar 2020

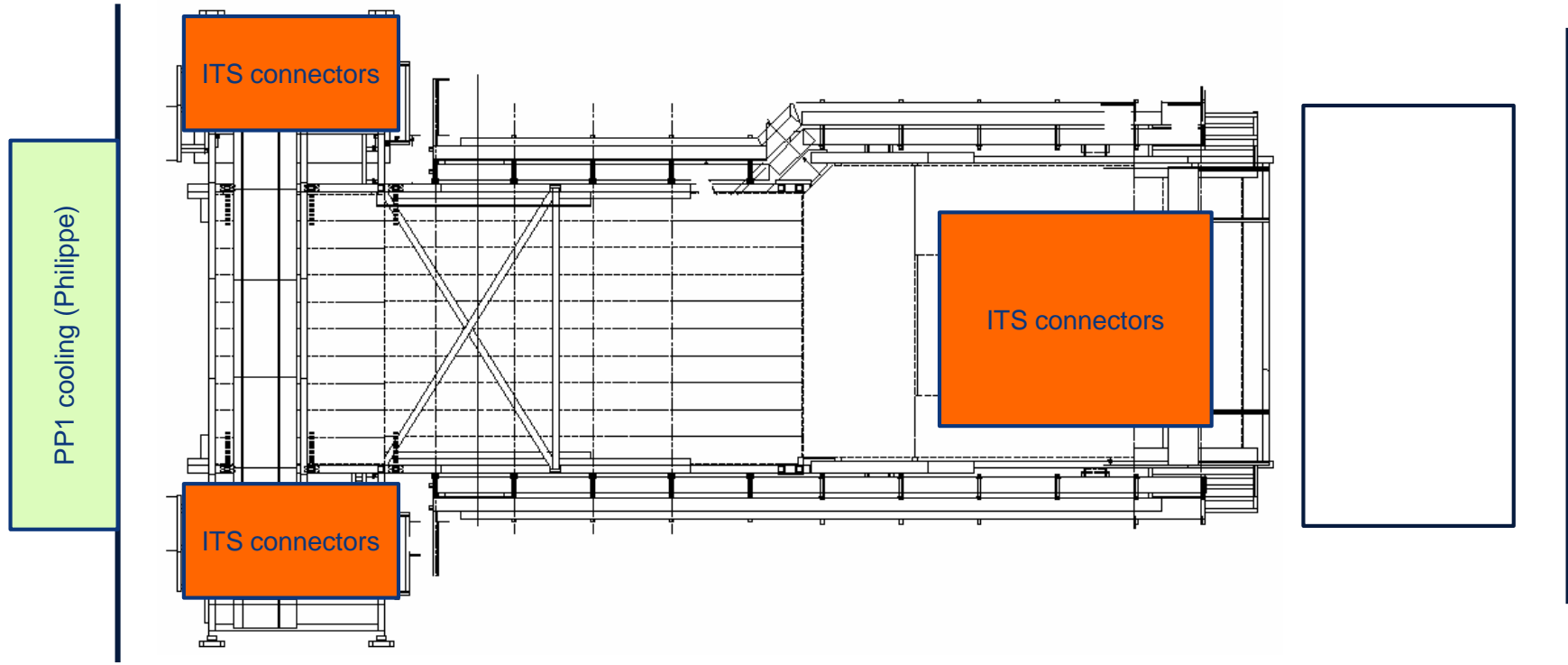
Cleaning miniframe (Elior): 7:00 to 8:00



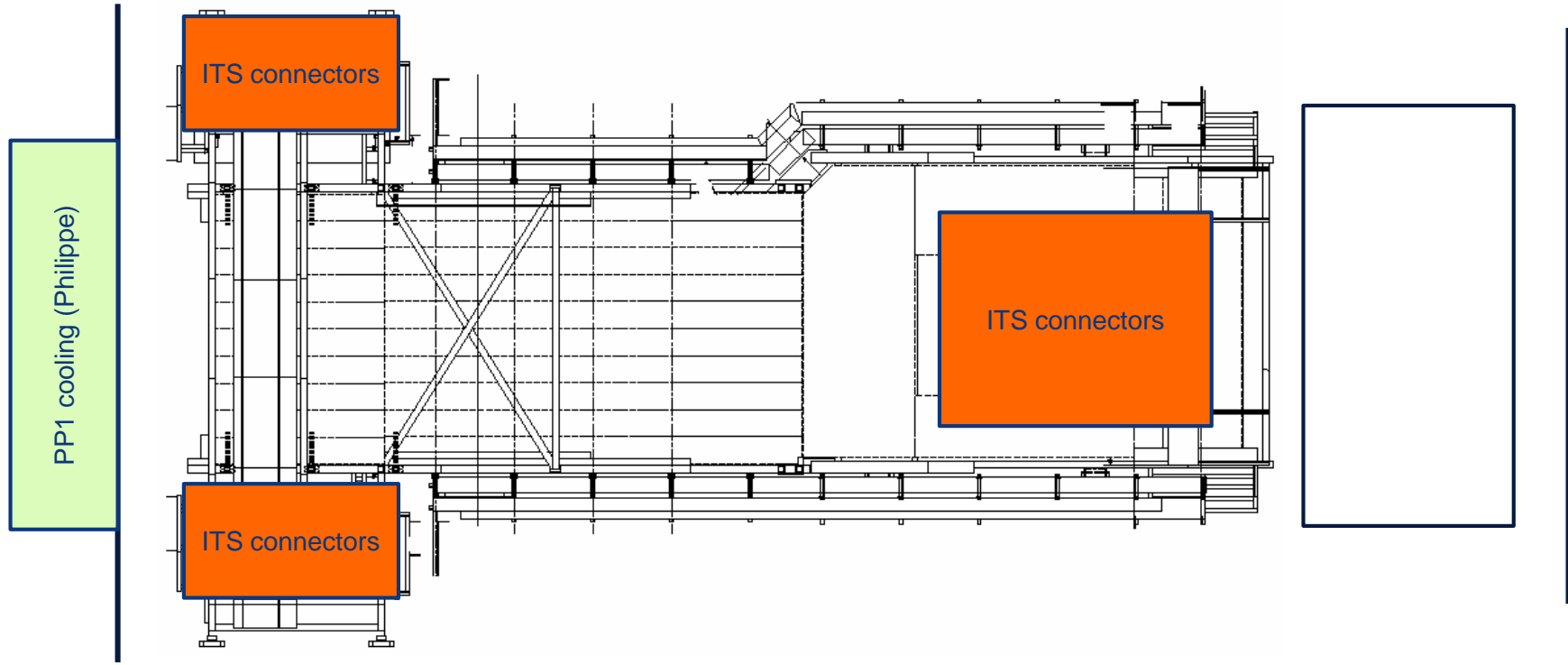
Miniframe activities w12 – Tue 17 Mar 2020



Miniframe activities w12 – Wed 18 Mar 2020



Miniframe activities w12 – Thu 19 Mar 2020



Miniframe activities w12 – Fri 20 Mar 2020

