

Questions to Positron Group from CRWG (Central Region Working Group)

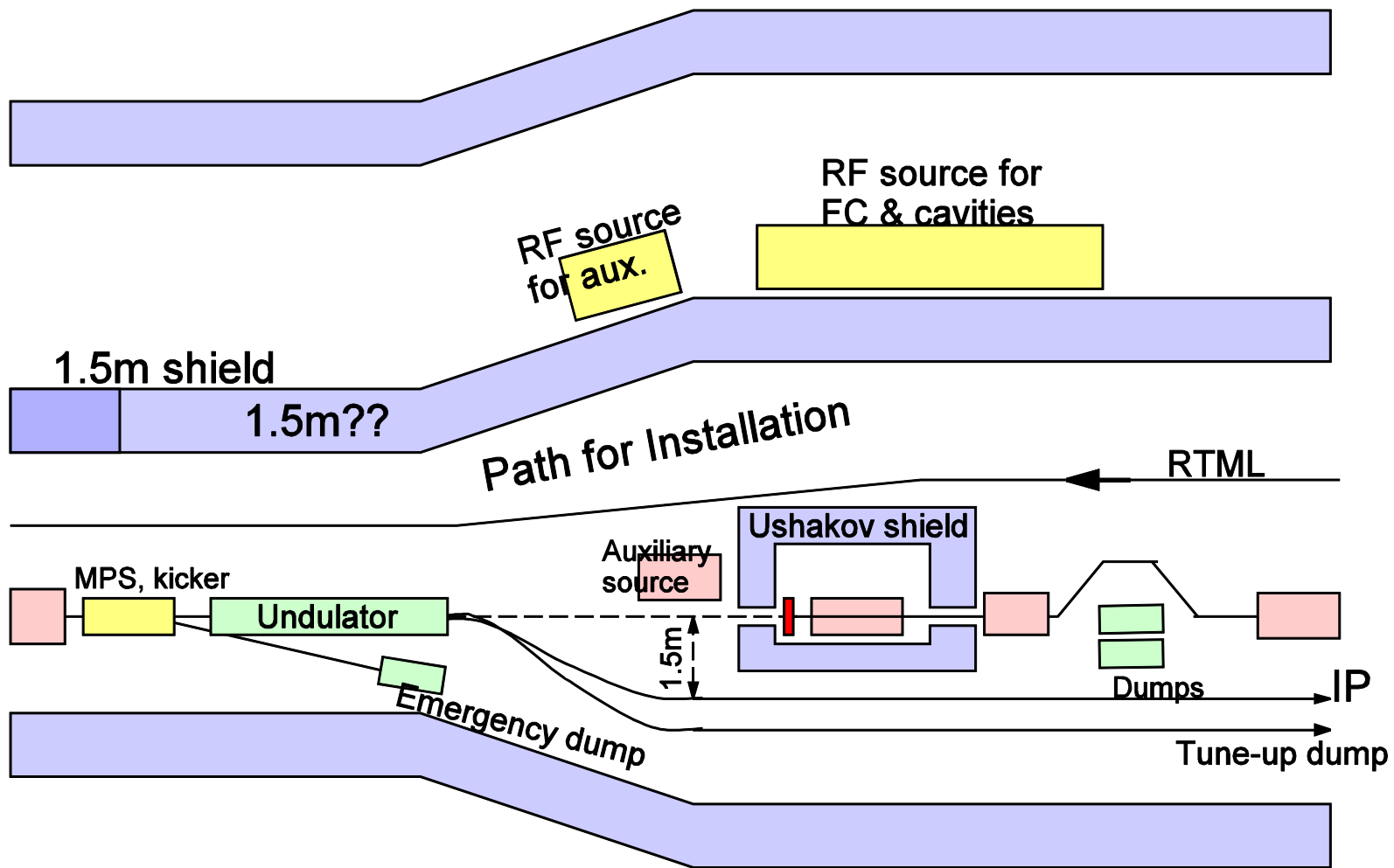
Shielding Wall between Service and Accelerator Tunnels

- The thickness of the shielding wall separating the service tunnel and the accelerator tunnel in the main linac region is being studied. Seems to converge to 1.5m (from 3.5m in TDR).
 - This is possible under the constraint of no human access to the service tunnel during the main beam on.
 - 1.5m is sufficient when RF is on but beam is off.
- The shielding wall in the BDS region is now a concern in the CRWG
 - TDR describes only twin tunnel as a solution for flat region. No design for mountain region is given.
 - Natural extension from Kamaboko tunnel in ML region to BDS region would also be Kamaboko (we assume this in the present questions)

Question A

- Is human access to the service tunnel in the positron source region necessary when the main beam (150GeV) is on?
- Answer:
 - The commissioning has to be made without necessity of any access during the operation.
 - Radiation level has to be controlled to avoid any damages on equipment in the service tunnel.
 - Radiation level has to be controlled to allow access to the service tunnel several hours later after the beam is turned off according to ALARA principle.

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Question B

- Should the region around the photon/electron dump be also shielded?
- Answer
 - We need a shield for the photon dump because the absorbed energy is more than that for the production target.
 - Need an investigation to fix the design of the photon dump shield.
 - As a first step, a tentative photon dump design will be made by borrowing the similar device design in the past experiment.