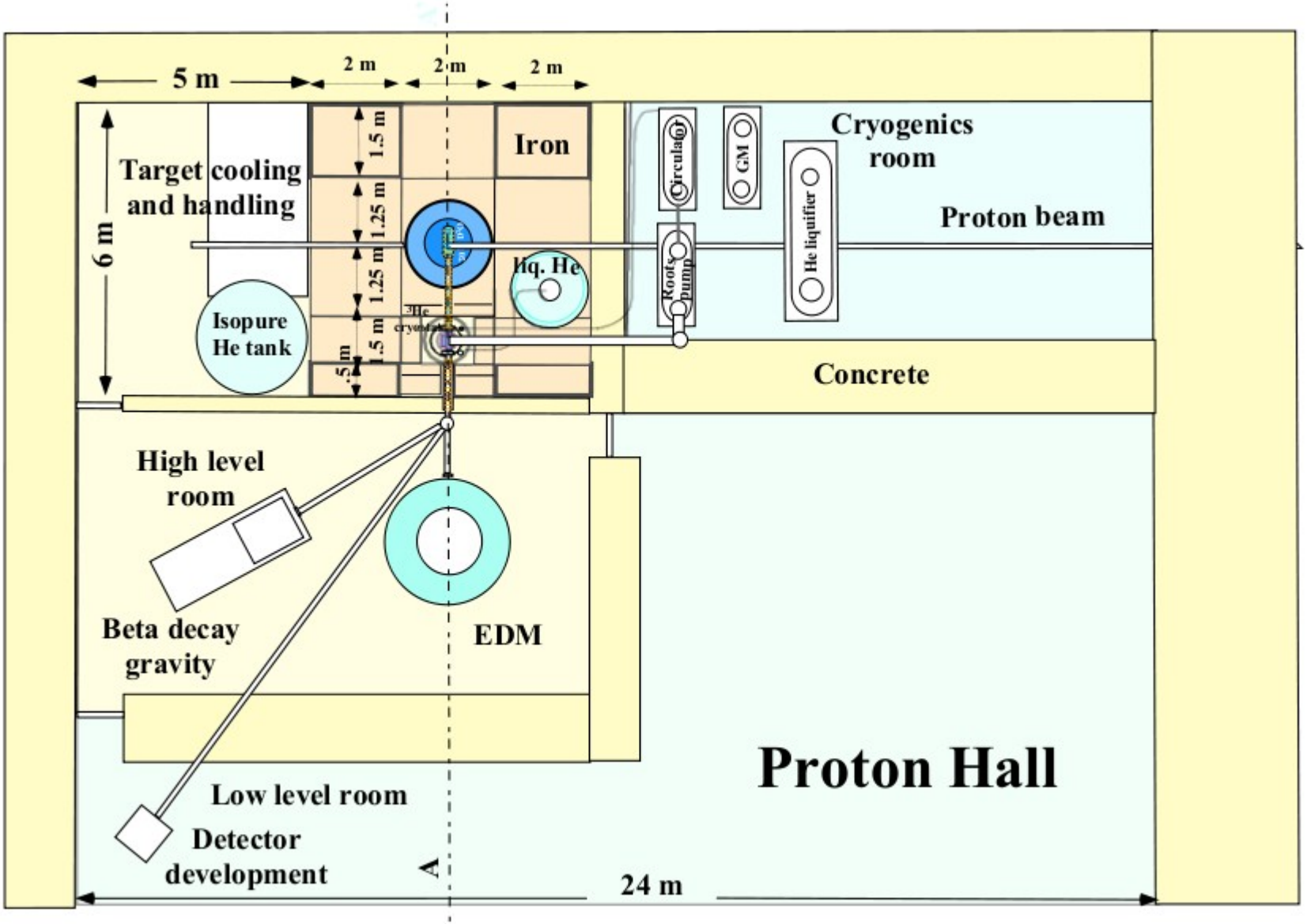
Discussion Points for this Meeting

- How is beam delivered to UCN?
  - How is 1 min on / 3 mins off achieved for UCN?
- Where should we locate the UCN source?
- How do we proceed on conceptual to technical design for the UCN source and experiment?
- How much space is required for UCN?
- How much does it cost?
- When do we need it by?

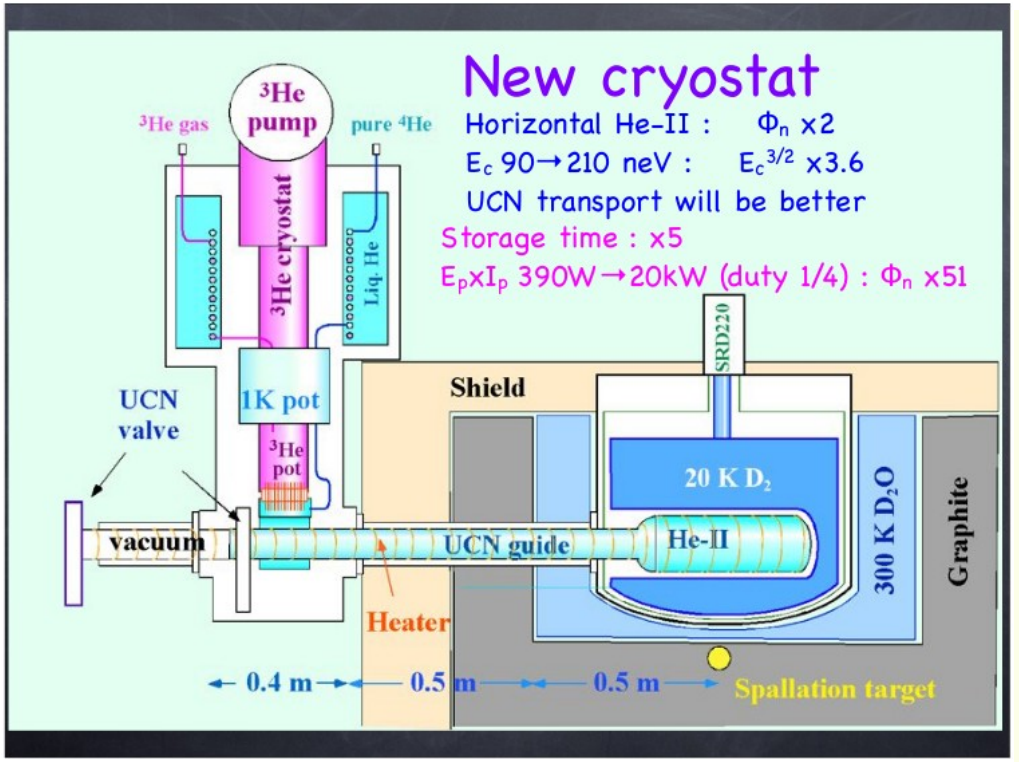
How much space is required for UCN? Masuda's conceptual drawing.

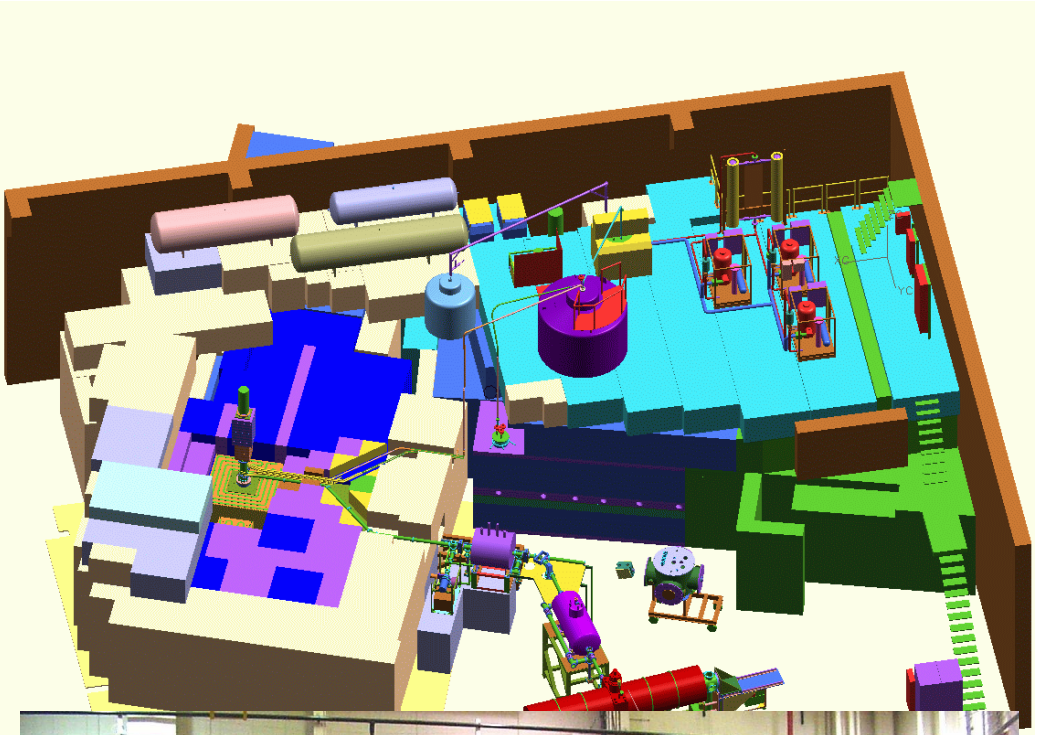
Potential Layout in Proton Hall (rev. 9/6/07)

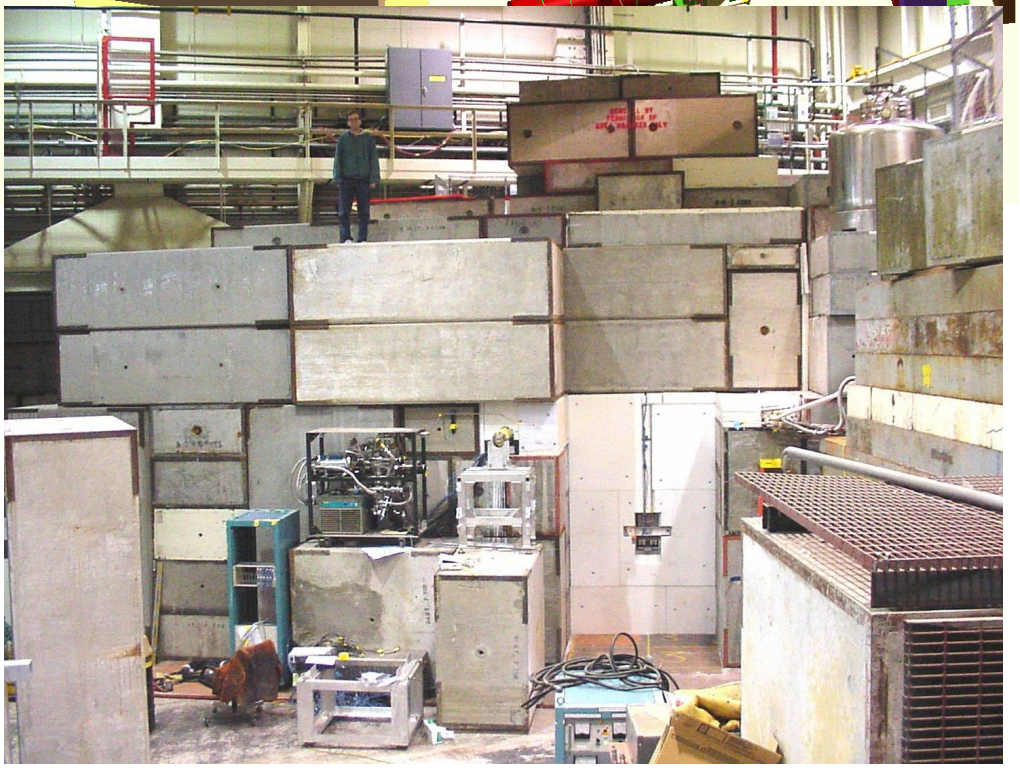


layout still needs some work... cryogenics location, shielding, remote handling

How do we proceed on conceptual to technical design for the UCN source and expt?



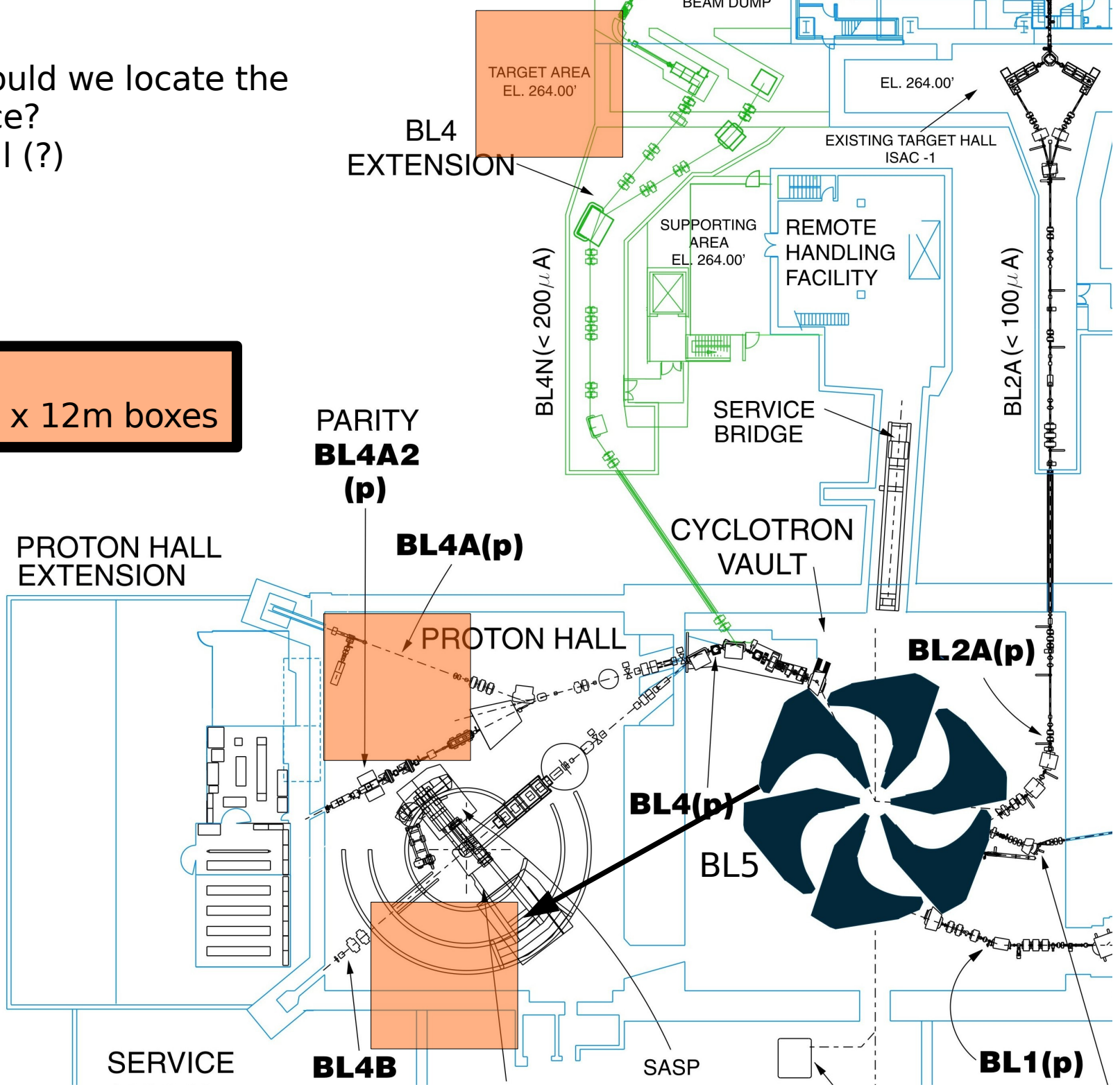




Issues:
- radiation
- cryogenics
- neutronics
- division of tasks
  - Masuda, Golub, others? very interested in cryogenics and neutronics
  - need TRIUMF support to bring to fruition

Where should we locate the UCN source?
Proton Hall (?)

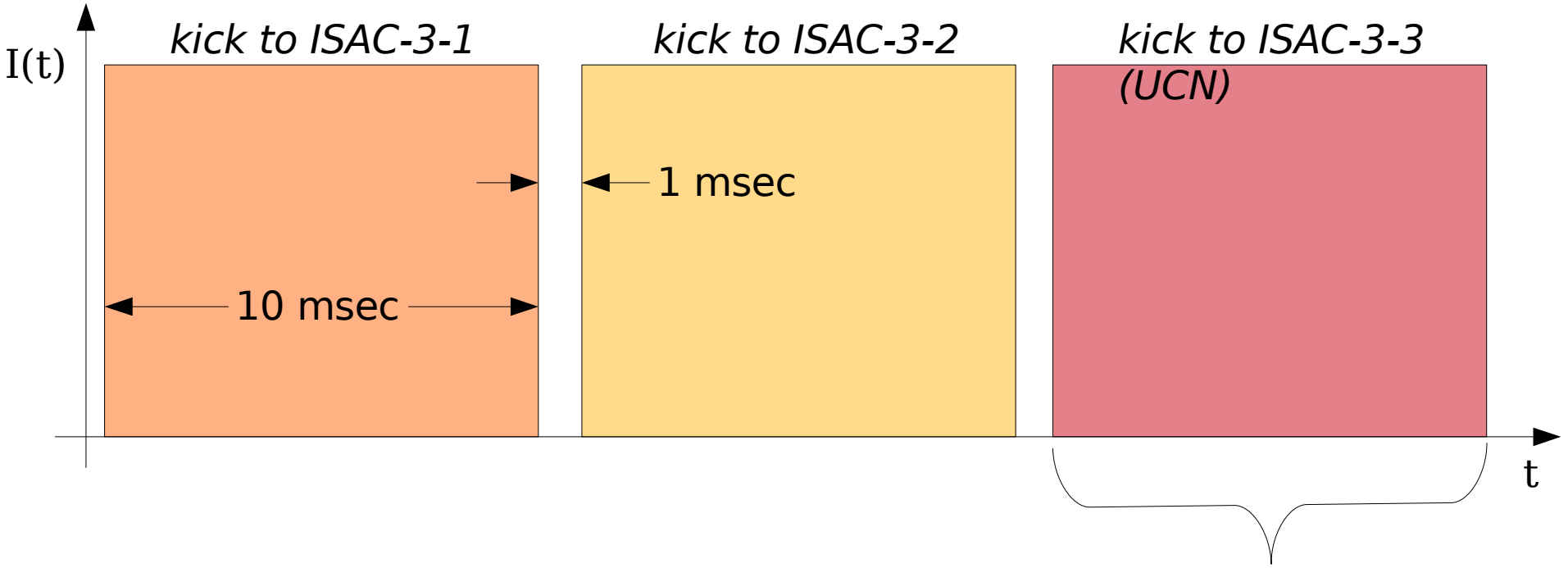
UCN
12m x 12m boxes



How is beam delivered to UCN? (a concept)

simultaneous operation with ISAC-3 by decoupling on kHz scale with kicker/ion source manipulation. Advantageous for ISAC-3: run all three targets simultaneously.

ion source current vs. time



More general question: Will kickers be used on BL4N or not? Can we benefit from this?

<u>To achieve 1 min on / 3 min off:</u>
Using another kicker, the UCN beam would be diverted either to UCN spallation target, or to the new ISAC-3 dump.

How much does it cost?

- Cryostat cost relatively well-understood (1.4 M$ CAD)
- Shielding, remote handling yet to be estimated. Base on experience from TRIUMF, LANL, and RCNP? (Prior to shielding simulations.)
- Flagship experiment target cost of <$2M (scale of TWIST experiment).

When do we need it by?

- Planning for next 5yp period, beginning 2010.
- Prior to 2010, pursue development of new UCN cryostat for TRIUMF at RCNP, Osaka.
  - This would allow us to demonstrate all the gain factors from horizontal extraction, better UCN guides. (aside from beam power)
- After 2010, begin construction of UCN source at TRIUMF (2010 = coincident with major reconstruction for ISAC 3).