

## 2<sup>nd</sup> Run 2 Meeting, 2 July 2019

Present: Steffen, Francesco, Valentin, Ans, Stefano, Edda

The slides are on indico at <https://indico.cern.ch/event/832375/>

Based on the design inputs for the electron source/line, Vincent prepared first layout proposals for the two options:

Option 1:

The electron source and beam line are installed on the right side of the proton beam line (looking downstream) at the level of the last proton magnets. The first plasma source is moved upstream by ~7 meters.

Leaving the CNGS separation wall and the diagnostics area as is, the second plasma cell can be 6.5m long (first is 10m long).

In this proposal the electron source/line area is ~4m x 20m.

Option 2:

The electron source is installed in the upstream part of TCC4. The plasma cells and diagnostics is moved downstream into TCC4. The 1st plasma cell is moved by ~19m downstream compared to the Run 1 location. Diagnostics equipment (streak cameras, electron spectrometer camera/line) need to be moved downstream as well.

In both options we need the laser for ionising the 2nd plasma source coming from downstream. Valentin prepared a sketch.

**Actions:**

**Ans:**

- discuss with civil engineering (John Osborne and Jonathan Gall) option 1 and for option 2 a possible extension in the upstream part of TCC4.
- get in contact with RP to study heat and radiation deposition of proton beam in decay tunnel.

**Marlene:**

- provide proton beam parameters (after SSM) to Francesco and Valentin.

**Spencer:**

- What is the max integrated field of the spectrometer in order to check whether the spectrometer could be used to introduce the bump for the proton beam so that the laser mirror can be installed further downstream.

**Francesco:**

- check feasibility of moving the 1st plasma upstream by 7m (option 1)
- study optics downstream the plasma cell with input from Marlene and the constraints for the laser merging.

**Valentin:**

— study mirrors and consider input from Marlene's proton beam parameters.