

## Minutes

## EN/MME meeting for HL-LHC CRAB CAVITIES

Monday, the 21<sup>st</sup> July 2014

Room112/2-023

Scope: regular meeting for the HL-LHC CRAB CAVITIES (WP4) Project at EN/MME.

Attendees: Luis Alberty, Kurt Artoos, Rama Calaga, Teddy Capelli, Raphael Leuxe, Pierre Minginette, Silvia Verdú-Andrés.

## General

Silvia gave comments to the minutes of the last meeting which will be soon integrated (related to the beam tube diameter). Raphael presented for the first time to the team the drawing issued to be attached to the engineering specification of the dressed cavities with the indication of the typical mechanical tolerances for the DQW cavity. Luis mentioned that one should have in mind that the drawings folder will be issued by the company supplying the dressed cavities, since it will be a supply of the American Institutes. The issued drawing is not a specification/functional drawing, but reference schematics, for information (a watermark will be added to the drawing), to be taken into account when issuing the final specification/fabrication drawings.

Three aspects were not yet present in this preliminary version of the drawing: its reference, the mass of the object and the material reference for Nb55Ti (Action->Luis). Raphael asked if making the beam tubes of the cavity longer (~30 mm) would be inconvenient – the team agreed from a first analysis that this would not be, in principle, a problem. A meeting will take place tomorrow with Cern's workshop team to discuss the tolerances shown on the drawing (organized by Raphael).

Teddy informed that Thierry R. will retire from Cern the 27<sup>th</sup> July (activities will be followed up in the future by Teddy and Raphael). Rama will not be at Cern from next Wednesday up to the beginning of September.

Rama informed that a meeting will take place with Niowave in one week time: Ofelia will be back that by there, fabrication/design strategies are to be discussed. He also informed that the design release / kick-off meeting for the manufacture of cavities + interfaces will be held at Cern the 29<sup>th</sup>/30<sup>th</sup> September 2014, with the representatives of the American Institutes and Niowave.

## DQW

The team at Cern is still waiting for the latest FPC hook design release from SLAC (modifications ongoing). It has been mentioned that it will be difficult to ensure an accurate positioning (tenths of millimetre) of the hook inside the cold cavity, since the holding structure is long, not very stiff and subject to complex loading scenarios. Indirect measurements through the outer body will be needed.

Silvia asked why it has been discussed with Niowave the diameter of the beam tube, to which Luis answered that the company was aiming at reusing tooling already developed for the PoP cavities, which is different from the actual baseline.

The design of the helium tank is not expected to be released by end September; the possibility of having internal stiffening rings is still to be studied. This topic will be developed in the future by Raphael (Action->Raphael).

## **RF-Dipole**

Luis informed that according to the announced during the last update meeting for the RFD, the PoP cavity will be assembled and tentatively tested in the USA by October. It was also mentioned that Thomas Nicol (Fermilab) had presented the results from the strength assessment of the dressed cavity with the interfaces (Cern design), according to which, for a nominal thickness of 4 mm (no allowance), the design is acceptable. The 3-D *.stp* model of the dressed cavity with the RF ancillaries will be updated to the project EDMS database of project n° 1398768. The next step will be the integration of the design into the SPS cryomodule, to be done by the team at Cern. Comments from this integration trial will be transmitted to the RFD team (Action->design team, all).

Luis asked Kurt if he had received any information from HyeKyoung regarding the tuning range aspects of the RFD cavity, and the answer was negative. According to the agreed during the last update meeting, such information shall be soon released on the indico page of the event.

## **4-Rod**

Luis asked if Rama had successfully contacted the colleagues in view of inspecting the 4-rod cavity. Apparently Ignacio is not at Cern (back on Tuesday), Luis informed that one of the key contact persons for the NDT is Jean-Michel Dalin.

*Minutes taken by Luis Alberty*