

## Minutes

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

Monday, 22<sup>th</sup> June 2015

Room 376/1-020

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

Attendees: Alexandre Amorim Carvalho, Ofelia Capatina, Teddy Capelli, Luca Dassa, Paula Freijedo Menendez, Marco Garlasche, Stefanie Langeslag, Raphael Leuxe, Norbert Kuder, Giovanna Vandoni, Carlo Zaroni

#### **RFD He tank**

Carlo showed the outcome of few iterations aimed at reducing the mass of the RFD He tank. A reduction of about 23 kg is possible without any impact on the stress in tank, bolts, welds and cavity. Norbert detailed those calculations with a submodel of the cavity. The submodel shows some peaks in the stress, which will have to be investigated more. However, none of them appears critical and it has been decided to issue the cavity's drawings.

#### **HOM fabrication**

Marco summarized the status of the fabrication of the HOM. 2 pieces for test are going through the process. For one the hook has been machined and already attacked chemically twice. The second has been machined with an improved process. The results are good and promising. The qualification of the production of other parts has also started while waiting for the final delivery of Nb. The end of the fabrication of the HOM for the DQW is expected for November. Paula also showed the completed MIP (Manufacturing Inspection Plan).

Finally, it has been mentioned that the RFD HOM production preparation should start soon. Those couplers should be less challenging, in principle.

#### **He tank tests**

Test procedure is through on-going discussion. Most likely, pressure test performed with the relevant service at CERN.

Drawings of the dummy tank are ready and under control. Also, example drawings and 3D model have been issued for discussion with external companies.

## Magnetic Shield tests

Setup for magnetic test at 4K is not available at CERN (will be in the future). We'll follow the preparation of the setup and anyway test samples here. Meanwhile, other samples will be sent to Zaragoza although some of the conditions we require are borderline for their test setup.

## Deliverable for HL-LHC

**Reminder.** In the scope of the High Luminosity LHC a document on the cryomodule is required for the end of July. The following contributions have been foreseen:

1. Introduction: Ofelia
2. Dressed cavity: Luca, Norbert (with Carlo)
3. Tuner: Kurt
4. Thermal loads and performance: Fede
5. Support system and alignment monitoring: Carlo, Mateusz
6. Magnetic shielding: Nik, Thomas (STFC, UK)
7. Cryogenics: Teddy (with Ofelia)
8. RF: Rama (with Giovanna)

The single contributions should be ready for **July the 10<sup>th</sup>**.

## Actions

- Prepare final drawings for RFD cavity → Raphael
- Launch drawings check for RFD cavity → Raphael
- Define shape of slots in RFD tank → Carlo, Raphael
- Define shape of magnetic test samples → Stefanie

Next meeting: Monday the 29<sup>th</sup> of June in room 376/1-020.

*Minutes taken by Carlo.*