



Date : 2015-10-07

MEETING MINUTES – IN WORK (V0.0)

Subject: SRF R&D Coordination meeting #01

Date and Time: 2015-10-14, from 10:00 to 12:00 (~ 2.0 h)

Place: 30-6-019

Participants:

Present: Sarah Aull, Francesco Bertinelli, Olivier Brunner, Rama Calaga, Paolo Chiggiato, Erk Jensen, Karl-Martin Schirm, Igor Syrathev, Giovanna Vandoni, Walter Venturini Delsolaro, Ofelia Capatina

Excused: Michael Benedikt, Sergio Calatroni, Frank Gerigk

WBS: 1.6.3

File Location/Link: <https://edms.cern.ch/document/1550180>

Indico link: <https://indico.cern.ch/event/446209>

Link to previous minutes: Not applicable

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1. Introduction

O. Brunner opened the 1st STP R&D Coordination Meeting (STP-01) at 10:00. HE reminded that the objectives of the meeting are to review the progresses, the milestones and the deliverables.

This month the preliminary program for the Rome FCC meeting must be prepared, with the list of participant. WP leaders are encouraged to motivate partners to participate and contribute to the programme, at their own cost. (There will be no financial contribution from the FCC project).

Discussion on WP4 (Cavity Fabrication):

- Decision was confirmed to transfer the STP WP4.1 to the RF R&D WP.

Discussion on fellows:

- WP3 (Cavity Material and Performance): The fellow request for WP3 is accepted. It is a fellow (50%) for EN/MME to work on FIB-SEM dual beam technique for Thin Films in SRF.
- WP6: The fellow request for a Fellow for RF/FB for the testing of the super-efficient klystron is accepted

2. Report from coordinator

E. Jensen reminded that the context, the objectives and the framework of the SRF and high η R&D activities at CERN.

The priorities are getting clearer. We now have to work on the R&D catalogue and discuss on the arbitration.

3. Progress reports

3.1 CERN LNL STFC

The signature of the Collaboration Agreement is on the way to be signed by all parties (only STFC's signature is missing).

In the meantime the organisation of the work as started. During the kick-off meeting which took place in June at CERN, the scope of the collaboration, as written in the official document, was confirmed, as well as with a short list of action.

The planning and a detailed actions list was defined during the Collaboration first follow up meeting which took place during the SRF2015 conference (see Paolo's slides for more details).

The exact contribution of each CERN participant needs some clarification (e.g. Ofelia pointed out the substantial effort required to provide a mechanical design of the 800 MHz). **Action:**

Paolo/Sergio

3.2 Cavity design

The WP is now well defined. The Collaboration Agreement with Rostock University has been accepted is underway. A PHD student was hired.

3.3 Cavity material and performance

Walter Venturini Delsolaro presented the scope and the objectives of the WP. The description of the work is detailed and several potential partners identified (e.g. UniGe, HZB, TU,..).

Discussion on manpower and budget are underway with the concerned group and department leaders (**Action: Walter**)

Paolo reported on the first tests done at CERN to magnetron sputter Nb₃Sn on copper. This activity is done in the framework of EUCARD 2 and its transition to the FCC R&D WP 3 must be detailed.

3.4 Cavity fabrication

The WP on the High Velocity Forming of Superconducting RF Structures is ongoing. Interesting results were recently presented at the SRF 2015 Conference

The structure of WP4 nonetheless needs to be completed and detailed asap (**Action: Karl**)

3.5 Cryomodule challenges

Some delay in the WP description accumulated. We are exploring various possibilities:

- CEA Saclay has expressed the wish to participate and will provide a proposal
- The (or some of the) SPL cryomodule activities could be integrated in the WP
- Contact with JLab is underway.

The scope and detailed structure of WP5 must be completed asap (**Action: Karl**)

3.6 LLRF System

No report

3.7 Power System

WP consists of two activities:

- The HEK CW efforts for a super-efficient klystron, led by Igor
- CEA Saclay is interested to participate to the WP through the "kladistron" development and has provided a WP description

The organisation of the WP must be revisited and a WP leader must be nominated (**Action: Erk/Olivier**)

4. Report from fellow activities

5. Specific reports

5.1 Report from the CERN-LNL-STFC Collaboration

See 3.1

5.2 HEKCW for FCC info/status

Igor Syrathev gave a convincing report on the super-efficient klystron activities. Igor succeeded in gathering together people from different labs and firms. The project is advancing well and a klystron, aiming at 90% efficiency, is in construction in Russia. The tube shall be tested at CERN in the coming months.

The next steps of the project have been presented together with a schedule and budget estimate. (see slides)

5.3 Feedback from the SRF conference 2015

Sarah Aull gave a complete and interesting summary of the conference (see slides). Progress are made on different fronts:

- Theory and understanding of phenomenon (e.g cooling dynamics)
- Cavity performances (e.g. N doping, high quality Nb/Cu coating)
- New materials (e.g. Nb₃Sn)
- Cavity fabrication and substrate quality

The SRF community is indeed very active and the CERN SRF R&D program should be defined accordingly.

6. Tour de table

7. AOB

The next SRF meeting takes place on November 11