

Notes From LEReC SCRF Meeting

Date: Nov. 6, 2013

Attendees: A. Fedotov, C. Brutus, M. Mapes, G. McIntyre, R. Than, C. Pai, J. Skaritka, B. Martin, J. Tuozzolo

Attached are presentations by me and Roberto from today's meeting.

We will meet again on Tuesday at 2:30 (Pam will send out the request) with Sergey.

Items discussed:

G. McIntyre has agreed to manage the mechanical engineering interface with Argonne National Lab and the items that are to be provided by BNL.

Some equipment responsibilities were assigned as follows:

- Cavity Power Couplers + RF Transmission Line from 1002D **J. Brutus**
- Vacuum Cryostat Assembly (Procurement – ASME code vessel) **G. McIntyre, J. Brutus**
- Cryostat Vacuum Systems – Insulating and Cryostat internal Beamline (Pumping and Monitoring) **M. Mapes**
- Cavity and Solenoid Magnet Support Frame **J. Brutus, G. McIntyre**
- (Shipping fixture Argonne to BNL) **J. Brutus**
- Magnetic Shield Assembly(s) **J. Brutus, G. McIntyre**
- Cryostat internal (or close external) 2.0K Helium Supply System **R. Than**
- Cryostat 50K Heat Shield Assembly **R. Than, G. McIntyre**
- Cathode insert fixture/cavity interface (Cathode supply system) **J. Brutus, J. Skaritka**
- Cathode production **J. Skaritka**
- Laser port interface **J. Brutus, B. Sheehy**
- Cavity tuner system(s) interface **L. DeSanto, J. Brutus**
- Cryostat BPM assembly **D. Gassner/R. Michnoff, C. Brutus**

A. Fedotov noted that ANL is providing a cost estimate for doing more than providing the cavities and superconducting solenoid.

On the superconducting solenoid. It was noted that a copper coil solenoid might do the job just fine. It would be cheaper to fabricate, would not require special leads or lead flow controllers, and could be kept internal to the cryostat. It could be cooled by helium gas that would be returning to the RHIC warm return lines. A. Fedotov took the action item to review the field strength requirements for this magnet. Then we will talk to Wuzheng about a preliminary design for a warm coil and calculate the heat load.

There were questions on the positioning accuracy required for the BPM and the solenoid magnet. Also will the solenoid require an outer steel field clamp/field return. These items need to be defined. (Action D. Kayran)

There was discussion on the cryostat design and the installation methods that could be used for the cavity assemblies. For the cost estimate it will be assumed that a code stamped vessel will be purchased and the cavities will be installed horizontally on a frame. (g. McIntyre, C. Brutus)

Question was raised about critical spares for operations. The quick answer is that spares are not to be included in the cost estimate; but, should be identified and the cost accounted for separately. J. Tuozzolo will work with K. Mirabella to define the policy and send out an email to the LEReC team.

Some discussion on the internal BPM and the interface with the cavity mechanical tuner system. As noted above, D. Gassner/R. Michnoff (BPM) and L. DeSanto(tuner) will support these items on the instrumentation side (discussed with Dave after the meeting).