

LARP-NW-UK-CERN - Jan. 30, 2015

NW

Documentation

The brazing sample for destructive testing was sent out to the vendor for qualification. This is the only missing item for BPQR.

The final machining of the flange of the test beampipe assembly is underway. NW expects to be able to ship out next week if there are no surprises.

NW questions for CERN

Documentation:

- Final specification drawing still waiting approval.
 - ISO drawings of beam tubes - comments were received in December.
- CERN does not think more comments are needed ...

Still awaiting results on Materials testing (see CERN's report below)

NW have scheduled the certification for leak checking of its tech staff – this step is needed to meet the documentation requirements.

TN - Work order for destructive testing started at FNAL. Should not cause delays.

Cavity forming – NW are working on last copper prototype of DQW, which is the “cake pan” assembly on the bottom, which has two HOM ports. The company completed one successful “nipple pull”, but the other had a tear. The present plan is to repeat one more test with a minor modification, then starting stamping out the part in Nb.

As far as the RFD, NW are machining dies and copper blanks to test the forming of cavity end parts in copper. As modifications are made, it plans to update drawings accordingly.

CERN comments -

The WPQR (Weld Procedure Qualification Record) was successfully updated, since CERN has received the last missing information.

A clarification was provided by NW's director of manufacturing on the welding process. First, the welder makes a first pass (seal weld) at low current: this joins the materials together. Then there is a 2 sec dwell where welder ramps up current to 69 mA, then ramps it down to 56 mA. The dwell is not all around, just a few sec to prep the machine for full weld. After this, the welder completes the full penetration weld.

E-beam weld testing.

The sample welds did not look compliant when comparing with the dimensions shown in the engineering specification document, but no defects were found in radiographic testing. CERN plans to check metallographic testing next week.

Materials testing: CERN have tested Nb for 3mm. No problems found.
Plans to test 4mm and NbTi, and Nb rod next week also.

HOM dampers on DQW

No major change. Will finalize height of the hook with CERN.

TJ reports that the functional specification drawing of both HOM dampers are ready to issue and approve early next week. The documents now need an internal check in the UK and CERN's approval.

HOM for RFD

ZL provided vertical coupler information to Teddy.

He is also working on preparing a table of modes so UK can compare.

CERN received the probe coupler that can be integrated. Ongoing work.

Planning for review.

Scheduling Feb 23 and 24. The review should take one day. If we repeat a summary of the EM design components we may need close to a full 8 hours of presentations. If not possibly as little as 4 hours – this will also depend on the reviewers: if we can have availability from the same, there is no need to repeat the EM design presentations. We plan to hold the review at a lab on east coast or FNAL, to allow for more overlap with office hours in Europe. I (AR) would like to finalize the plans by next week so everyone can make travel arrangements.