

Frederic Savary

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Sent: Friday, March 27, 2015 3:32 PM
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Subject: Priorities on design work for WP11

Dear colleagues,

Following our meeting held on Tuesday this week, and another one with Diego, Thomas, Paolo and Delio on Wednesday, I'm coming back to you with more information as regards to priorities for the WP11.

- Priority 1: Produce V5 of single aperture model, which shall be an update of V4 with the following changes:
 - Remove the 8-9 mm gap that was left between the outermost turn and the saddle because the coils were actually longer than defined by Roxie. We are now able to produce the coils at the length defined by Roxie in a reproducible way;
 - Implement the latest version of the instrumented collar packs. There are now 3 instrumented collar packs;
 - Remove the capacitive gauges and correct the pole piece/collar as needed;
 - Implement collar packs of uniform length.

Juan Carlos or Nicolas will give the detail information directly to Alexandre.

We would like to have this done by the end of April.

- Priority 2: Develop the 3D model of the extremities of the prototype and of the model MBHDP101 for the 2-1 assembly. They should be 'nearly' identical (for example, the diameter of the yoke, i.e. also that of the end plate will be different, as the yoke will have a 540 mm OD in the prototype). What we need is described here after.
 - First model 2-in-1, named MBHDP101, with the existing yoke of 550 mm OD (I recall here that we already have yoke laminations on stock that we are going to use);
 - The end plates shall be 75-mm thick and the bullet gauges as per concept shown during the meeting of Tuesday. Regarding the bullet gauges, Hervé to confirm the final details of integration and Christian/Friedrich to confirm that the level of stress especially in the threads and the stress field in the region of the gauges are acceptable;
 - The electrical instrumentation (trace, V-taps) shall be compatible with the instrumentation scheme of the 1-in-1 assembly (same remark applies for the insulation/connection box aka 'pasta box'), as we are going to use the same collared coils (the collared coils of the 'SP' models will go in the 'DP' models);
 - Electrical connections to be designed identical to those of the MBH #2 (Hervé to give details on this point), including insulation plates/supports as needed;
 - ½-Yokes to be made of 500 mm packs, as done for the single aperture model.

We would like to have this done, including the detail drawings, by the end of May so that we can launch the procurement/fabrication process of the components that we will need in September for the assembly of the model MBHDP101.

- Priority 3: Develop the 3D model of the extremities of the prototype and of the model for the 2-1 assembly MBHDP102. They should be identical.
 - The yoke OD shall be 540 mm and the yoke shall have an integrated cut-back, i.e. non-magnetic steel laminations in the ends (Frédéric and Susana to check whether these can be full non-magnetic laminations);
 - The design of the yoke shall be revised to be compatible with the alignment features and assembly requirements (Hervé to check this). Once the design is revised, we shall check the magnetic design (Susana) and the mechanical integrity (Christian/Friedrich);

- Remove the 8-9 mm gap that was left between the outermost turn and the saddle because the coils were actually longer than defined by Roxie. However, we do not make the saddles longer to compensate for this. This means that the coils will be shorter than what we have on the drawing because we will not change now the length of the winding pole and, anyway, there are other reasons for the coils to be different in length in reality, when compared to the drawing. The model and the drawings will be updated when the prototype is done and we have all the necessary information to determine the exact length of the coils that we need for the series.

We would like to have this done, including the detail drawings, by the end of June so that we can launch the procurement process of the components that we need for both the prototype and the model DP102.

A bit long but I hope this is clear enough. If not, do not hesitate to call me or Hervé for the prototype cold mass, David for the prototype collared coil, Juan or Nicolas for the model.

I'll come back later with a more precise definition of priorities for the critical components for which we would need the drawings asap.

Thank you.

Bon we,
Fred