

Crab Cavities Technical Coordination XI



Location:	376/01-020
Date:	24th October 2016
Time:	10.30
Scope:	coordination and alignment of tasks involved in the preparation of SPS tests, follow up of master plan.
Attendees:	Carlo Zanoni, Mateusz Sosin, Kurt Artoos, Marco Garlasche, Eric Montesinos, Leonel Ferreira, Sebastien Calvo, Frank Gerigk, Luca Dassa

Status:

The workflow activities are now under responsibility of the workshop. The summary of the status is:

1. For cavity #1, the intermediate welds are expected to be finished by mid-November. No changes is foreseen on the planning¹.
2. For cavity #2, machining of parts during week 31.10-4.11 is foreseen. No changes to planning.

Safety:

Luca Dassa showed some introductory info concerning the safety activities. His focus has been mostly on the cryomodule rather than on the full installation. A "Review of the operational safety of the crab cavities test stand in the SPS" is planned on the 9-10 of November. Luca also remarked that there're several open points that he has not yet clarified with HSE.

Luca then showed the main philosophy of the safety approach for the cryomodule. The main significant point is the presence of pressure vessels of Category II (or below). This means proper pressure tests are expected unless otherwise agreed with HSE. For pressure-testing the 2 K part inside the cryomodule, three approaches are possible:

1. Testing subsets of components and x-ray inspect the connecting welds between them.
2. Test of the full system in one-shot.
3. Derogation to the pressure test requirement, substituted by the inputs provided by prototype tests and cold tests (of cavity and cryomodule)

The advantage of approach #1 is that possible detuning of the cavity during test happens before the pretuning task. The disadvantage is the extra-complexity in tooling and the longer time. Luca will follow-up on this issue to come to an agreed procedure.

Clean Room Review:

Frank went through the closing remarks of the Clean Room review. Some points are here reported. Full list of reviewers' suggestions is here: <https://indico.cern.ch/event/555785/>

¹ Small differences may be noted wrt to the single workflow tasks, due to workflow simplification (it cannot show all the tasks like an MIP). The milestones are the checkpoints of the advancement.

- Need of follow-up document. Rama's idea of creating a logbook has been discussed. Best software/webpage to be chosen. Alick and Aurelio will prepare few slides on their precedent experiences.
- Bake-out of cavity and couplers. It seems there is no way of doing a bake out without the cavities seeing air afterwards. Clarification from reviewers needed. At present it is foreseen to bake the power couplers before assembly and then only to open them to air in the clean room before the actual assembly. This procedure was already applied for XFEL.
- The tool, which is used in the workshop to leak check the HOMs, could be cleaned and then be used in the ISO5 clean room for baking. Marco will follow-up.
- Ultrasonic cleaning. It was suggested to apply 10W/l but this depends on the used frequency. Details to be discussed (Leonel)
- N₂ in string assembly is the preferred approach (to vacuum). It must be validated before, though (Alick)
- N₂-cleaning of parts requires a boil-off-based system. Alick agrees and is looking into that.
- Eric Montesinos asks for access to the clean room to mount the FPCs onto the test box before Christmas. He is planning to do the conditioning over the Christmas break.

Action list:

	Action	Responsible	Opened	Closed	Result, Comment
1	Complete list of acceptance criteria	All	30.5.16		In-work by Rama and Carlo
10	Clarify who's in charge of the different leak detections	Giovanna	1.8.2016		To be reviewed
11	Follow-up of cryomodule safety activities (pressure test especially)	Luca Dassa	1.8.2016		Introductory presentation at CCTC XI
13	Launch update of instrumentation list	Giovanna, Carlo	1.8.2016		Discussed. RF needs to be clarified
14	Follow up reservation of assembly and storage areas in SM18	Karl	1.8.2016		
18	Introduce infrastructure availability inside the planning	Aurelio	26.9.2016		
19	Discuss/negotiate infrastructure availability	Alick, Giovanna	26.9.2016		
21	Possibility of storing of FPC in clean room	Eric	10.10.2016		
22	Provide list of flanges required at each step of the workflow	Alick, Marco	24.10.2016		
23	Follow-up of clean room review outcome	Alick, Eric, Leonel	24.10.2016		
24	Provide inputs for logbook	Aurelio, Alick	24.10.2016		

Minutes taken by Carlo

Next meeting: Monday 7th of October