

Crab Cavities Technical Coordination XXVI



Location: 376/01-020
Date: 8th May 2017, week 19
Time: 10.30
Scope: coordination and alignment of tasks involved in the preparation of SPS tests, follow up of master plan.
Attendees: Rama Calaga, Mateusz Sosin, Aurelio Berjillos Barranco, Karl Schirm, Ofelia Capatina, Eric Montesinos, Frank Gerigk, Alick Macpherson, Carlo Zanoni, Giovanna Vandoni, Serge Claudet, Krzysztof Brodzinski, Philippe Baudrenghien, Alejandro Castilla Loeza, Kurt Artoos, Ilan Ben-Zvi

Master schedule: EDMS 1747466

Logbook: <http://elogbook.cern.ch/eLogbook/eLogbook.jsp?lgbk=387>

Status:

Cavity #1 (Workshop)

The cavity is in the last weld steps. Eric received 3 HOMS and one pickup. Cold test sequence to start on May the 22nd.

Cavity #2 (Workshop)

Cavity#2 was sent back at the workshop. Jacketing starting in week 19.

With the current status and planning, the cryomodule will arrive SPS with a delay of 7 days. Cavity #2 is on the critical path, while cavity #1 has just a few days of margin.

LLRF

Philippe gave an overview of the status of the Low Level RF preparation. We will use the VME crates used for LHC, HIE-Isolde and Linac4 with some SPS upgrades. Slightly adapted electronics, 1 crate per cavity.

Status:

- Hardware (B. Kremel)
 - Clock Gen module ready (2 PCs)
 - Tuner module ready (1 PC)
 - CavLoop modules (field regulation) being adapted for 400.8 MHz
- Firmware (B. Kremel, J. Simonin)
 - Tuner module ready
 - CavLoop under development
- Software (N. Stapley)
 - Fesa class for tuner module under development
 - Fesa class for CavLoop not started yet

The tests foreseen are:

- Lab test: a test bench will be prepared in 864 lab, with the idea to test everything, cavity being modelled in firmware. The test-bench is under preparation and the test shall be finalized for mid-June. Philippe said he would urge his team to establish the test bench as soon as possible.

- SM18 test: a test with the goal of commissioning the system as it will be in the machine (with of course reduced power). The test will be performed in the vertical cryostat with the PoP cavity, as soon as we will have it back from Japan, mid-June. This test may be resumed after the cryo-shutdown.

Ofelia asked to make sure we will be able to test the tuner in the cryomodule. Kurt stressed the importance of using representative long cables (i.e. 160 m) for the SM18 test, in order to properly account for the ringing effect.

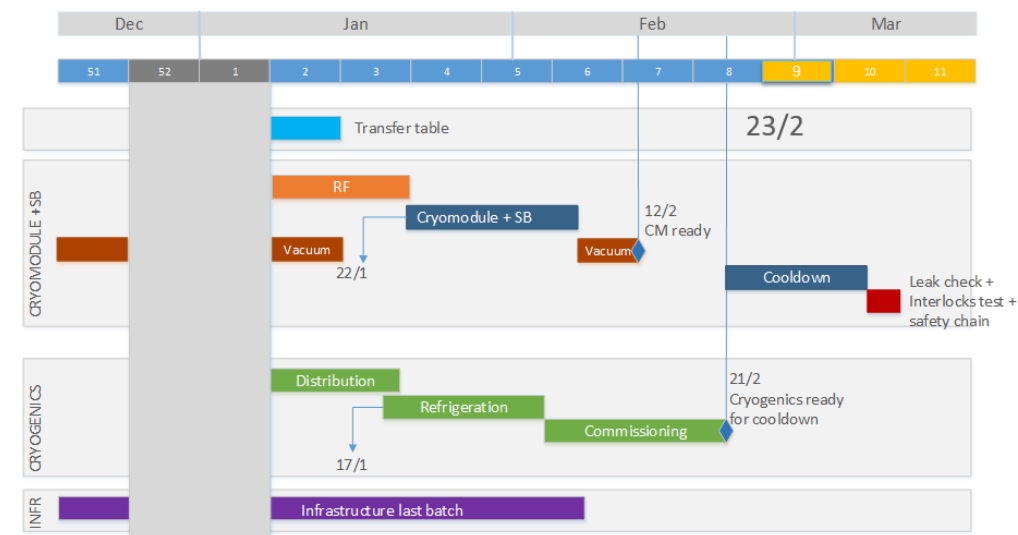
Concerning the infrastructure in BA6, the IT for the Faraday cage will be sent out at the end of May. The selected bidders are well known. If everything goes as planned, the cage will be installed for the end of October. CERN services will finish the internal preparation. In case the Faraday cage is not available in time for its installation, the backup solution is to operate without. It shall then be installed at a later stage. Philippe stressed that the cage also provides a quiet environment in the noisy BA6, which will be important for the people working there on LLRF.

List of minimal tests in SM18

Frank showed a list of possible tests, derived from an input of Rama at the recent review. The goal is to be prepared to perform as many of these tests as possible within the given time frame. If the time is too short to do everything, then the CCTC will prioritize. Alick will organize a specific meeting on the infrastructure/cabling needs.

YETS 2018

Giovanna presents WP4 general planning for YETS 2018 as reaction to request on comments on the document on the overall YETS schedule. The document is presented as “Proposal”.



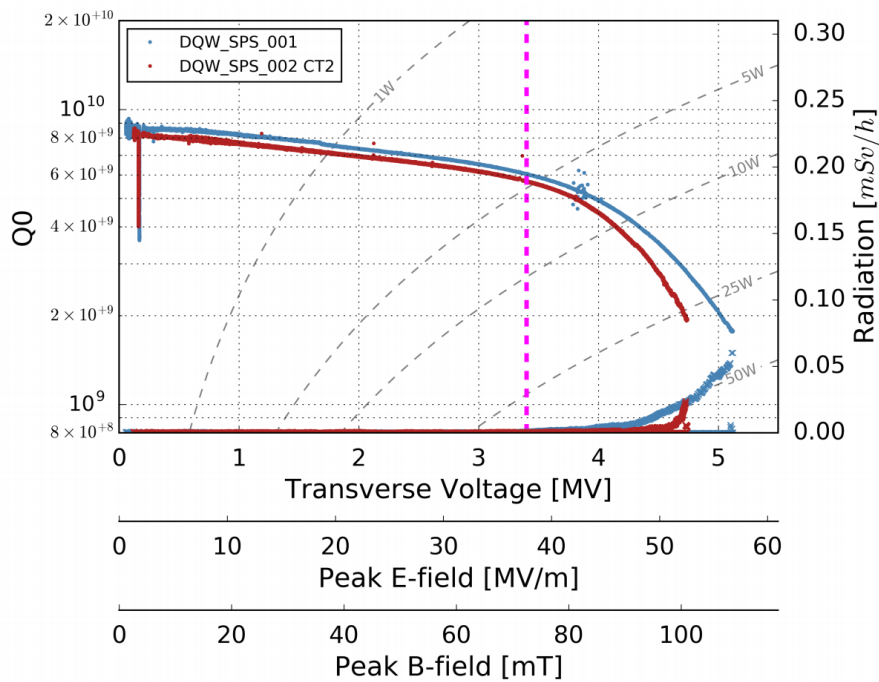
According to the present planning access is not allowed in SPS from wk9 (2018) and the beam commissioning starts in wk12. Kurt asks to book wk51 (2017) for the transfer table, as this allows contingency during the Christmas break.

The general agreement is on the need of access for repairs or adjustments for an additional one or two extra weeks. This additional time is not meant for installation work. However, a detailed planning has not yet been worked out. Also, in order to ask for more time, we should support the request with new facts

coming up recently. A justification is the need of extra time in SM18, for tests requested by the recent review. Giovanna will formulate a comment to the schedule document and circulate it for discussion and consensus. She will also assemble a detailed planning of the YETS, with the inputs from the persons concerned, for circulation in 3 weeks from now.

Cold test results:

Alejandro summarized the cold test results, already presented at review and workshops.



Both cavities exceeded the 3.4 MV requirement. The heat load is instead higher than the initial goal. This triggered discussion on numbers to choose as a baseline. In light of the fact that the Q factor was a very rough and old estimation (before any actual data), it has been decided that the threshold of dynamic load per cavity is formally set to 5 W at the nominal voltage of 3.4 MV. Carlo said such a value is already included in the last MME official heat loads estimations.

AOB:

- Karl asks to provide feedback on activities in front of clean room;
- Alick stresses that access to the RF Power zone between bunkers is very dangerous during RF tests and powering. Marco has the keys to the zone, but access must always be with Alick's formal approval, to ensure safe conditions.
- Frank says that bldg. 2002 has space potentially available for us, once cleaned.

Action list:

General and Planning:

ID	Action	Responsible	Opened	Closed	Result, Comment
42	Timeframe for cryo shutdown to be agreed	Frank	30.1.2017	27.2.2017	15.8.2017 – 30.9.2017

49	Define detailed test sequence of Cryomodule in SM18	Alick (inputs needed)	27.2.2017		Inputs needed (RF, cryo, vacuum...)
55	Comment on YETS2018 first plan draft	Giovanna	8.5.2017		Ask extra time (at least 1 week)
56	Bottom-up planning of SPS activities	Giovanna	8.5.2017		

Documentation:

ID	Action	Responsible	Opened	Closed	Result, Comment
32	Approve and/or comment acceptance criteria	Task leaders	19.12.2016		Approval resumed after comments
44	MTF to be updated with actions on chemical processing, heat treatment and RF conditioning	Carlo	30.1.2017		Input needed by Alick. Karl will follow this up too

Design:

ID	Action	Responsible	Opened	Closed	Result, Comment
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SM18:

ID	Action	Responsible	Opened	Closed	Result, Comment
54	List of tests in SM18	Alick (inputs from all)	8.5.2017		
58	Provide feedback on activities in front of clean room	Marco, Ofelia	8.5.2017		

Tools & Ancillaries:

ID	Action	Responsible	Opened	Closed	Result, Comment
43	Tools for monitoring alignment in clean room	Mateusz	30.1.2017		Mateusz will organize a wrap-up meeting

Space:

ID	Action	Responsible	Opened	Closed	Result, Comment
14	Follow up reservation of assembly and storage areas in SM18	Karl, Rama	1.8.2016		Space request in SMA18, 200 m ² . Visit service agreed in leaving us the sofas space in SM18. Space between bunkers in SM18 can be used, but it's not a working area and it cannot be accessed while tests in cryostats are running (radiation). Alick to provide test plan to Marco
38	Buffer space for transfer table	Kurt, Rama	9.1.2017		Final decision after EYETS

48	Make sure the space in front of the clean room is free when needed (portique installation)	Karl	27.2.2017	24.4.2017	
53	Storage for cavity toolings	?	10.4.2017		
57	Follow-up of space in bldg. 2002	Frank	8.5.2017		

Minutes taken by Carlo

Next meeting: Monday 22nd of May 2017