

Crab Cavities Technical Coordination XXXII



Location: 376/1-020
Date: 7th August 2017, week 32
Time: 10h30
Scope: coordination and alignment of tasks involved in the preparation of SPS tests, follow up of master plan.
Attendees: Aurelio Berjillos Barranco; Giovanna Vandoni; Mathieu Therasse; Kurt Artoos; Carlo Zanoni, Frank Gerigk; Ilan Ben-Zvi; Vivian Rude; Alick MacPherson; Marco Garlasche

Master schedule: EDMS 1747466

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

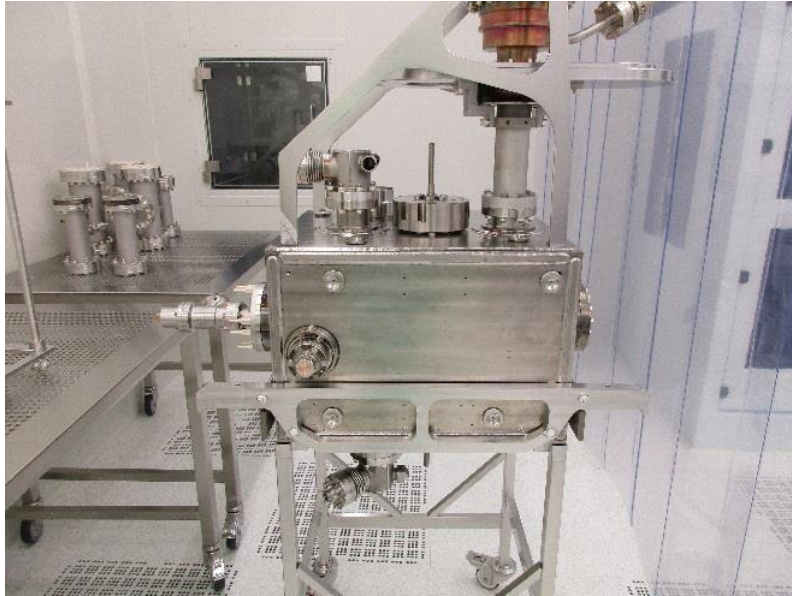
Status of string assembly

Mathieu reported the status of the activities on the string assembly. The task will be finished with 10 days of delay due to the various issues of the last month. The cryostating is then supposed to start on the 17th or 18th (initial plan was for the 31st of July).

The planning presented in the slides is here reported:

Monday 7th	String assembly trolley preparation Downstream warm transition leak detection and RGA (residual gas analysis) Mounting of the inter cavity bellow
Tuesday 8th	Upstream warm transition and pumping Survey tooling preparation
Wednesday 9th	Upstream warm transition leak detection and RGA Survey tooling preparation
Thursday 10th	Mounting cavities and warm transitions on string trolley
Friday 11th	String alignment
Monday 14th	String trolley preparation for ISO4 (morning) Start connection (afternoon)
Tuesday 15th	Alignment check before pumping Start pumping
Wednesday 16th	String leak detection and RGA

In summary, both cavities are fully equipped (FPCs, HOMs and pickups) and leak tight. CWT are under preparation as well as the intermediate bellow. The trolley for string assembly mounting has been tested with some representative loads (total about 350 kg). The deformation is about 50 um, less than estimated (some differences in the final production design, though). Alick asked if the loads slide easily on their rails. The answer is yes.



Follow-up of accident during vessel leak test

Following up the accident during the vacuum vessel leak check (see minutes CCTC XXXI), Marco reported that:

- from now on, 4030 will give formal green light at the end of a test, to assure the equipment is unloaded;
- CM assembly sequence to be reviewed by HSE, to highlight possible further critical points;
- Minor repairs will be done on the vessel to fix the leak and the accident itself. The leak was on an o-ring and not on the vessel itself.
- Accident report prepared and circulated.

Marco would need a top-table support for the repair of the top plate, for a better ergonomic.

Status of Cryomodule activities

Marco gave a quick overview of the status. A more detailed discussion has been planned for the next CCTC. The first 3 macro-steps of the assembly sequence are ready. There have been and there are some delays on some parts, but in the shadow of the overall delays.

AOB

- There is a discussion in operations, whether to suppress 1 LHC technical stop, which would mean that the SPS YETS might start 1 week earlier than anticipated; the decision is still pending
- LLRF test of PoP cavity started this morning, temperature stabilized at 4K;
- $9.5 \cdot 10^{-5}$ is the loaded Q of the PoP, design value was 10^{-4} ;
- Next week the M7 cabling campaign will start. Cable inventory for vacuum are missing;
- Cryo-shutdown of SM18 starting 14th August for 6 weeks. Helium back beginning of October;
- It seems the problem with the feedthroughs is due to the design that results in high stresses on the ceramic.

Action list:

General and Planning:

ID	Action	Responsible	Opened	Closed	Result, Comment
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	23.5.2017	
56	Bottom-up planning of SPS activities	Giovanna	8.5.2017		
57	Draft initial operational scenario for SPS tests	Rama	22.5.2017		

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		
63	Inventory of all the connections on the cryomodule	Alick, Giovanna	7.8.2017		

Tools & Ancillaries:

ID	Action	Responsible	Opened	Closed	Result, Comment
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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 m2. 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	22.5.2017	Table can go directly underground and use the transport zone as buffer
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 and Giovanna

Next meeting: Monday 14th of August 2017