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Date of the meeting : 05 August 2021

WP6a Technical follow-up : Meeting Minutes #2**Project/Activity:** HL-LHC – Cold Powering (WP6a)**Participants :** F.Di Ciocchis (FdC), P.Cruikshank (PC), Y.Leclercq (YL), P.Schneider (PS), C.Halbert (CH), A.Jacquemod (AJ), F.Pillon (FP)**Agenda:**Indico event <https://indico.cern.ch/event/1055245/>

1. Action list follow-up
2. Feedback on DSH-DFM installation study
3. Planning of new activities
4. AOB

Discussion & comments:

2. Share team's holidays and absence

	July					August				Sept		
	27	28	29	30	31	32	33	34	35	36	37	38
FdC												
RB												
FP												
AG												
CH												
PS												
PC												
DO												
EG												
YL												
MC												



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2. Action list follow-up

DFH

- Action #1: Follow-up weld qualification campaign (FdC, YL, RB)
Qualification plan on-going - few remaining points to be addressed in the next dedicated meeting. PC mentioned that Pierre Moyret would like to know more about the CL lip welds qualification. PC asked if Julien Debeux already has a specific budget code for the qualification activities. Additional points to be addressed :
 - **RB to provide Current leads pressure-retaining welds list**
 - **YL to contact Andre Jacquemod for Cluster F welds list**
 - **YL to check with Julien Debeux if a specific budget code already exists**
 - **FdC to inform Pierre Moyret that he can contact Julien Debeux to get details about the CL lip welds qualification campaign.**

- Action #2: Finalize feet design ensuring compatibility with installation sequence (RB)
Activity on-hold.
Tunnel floor unevenness has been measured. Results presented by Stephane Maridor, available [here](#).

- ~~Action #3: Perform test to validate flexible design (RB)~~
~~A test was performed by manually "shaping" the helium flexible of the 18kA CL. RB confirmed that the design is ok even though he underlined his worries about difficulties we may face during the installation.~~

- ~~Action #4: Measure actual flexibles length (RB)~~
~~The flexible's length was measured, there is 5mm deviation with respect to the nominal length specified on the reference drawing. RB confirmed that the flexible length has been updated on the drawing with the correct one.~~

- Action #5: Follow-up flexible design report approval (PS,DO)
 - DFHM → EDMS #[2574367](#)
 - DFHX → EDMS #[2521112](#)Comments from Jerome Fleiter still missing. He would like to perform some tests before commenting and approving the document. PS confirmed that Simon Hopkins comments have been integrated although the new version has not been uploaded in EDMS yet. The document is currently in DO hands to integrate the comments for the DFHM. PC suggested to close this point and open a dedicated one focusing on the flexible's tests.
 - **YL to contact Jerome Fleiter to set up the flexible's tests**



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- Action #6: flexible's tests follow-up (YL)
Performing flexible's tests based on what Jerome Fleiter wants to check before approving the dedicated reports (see Action #5).
→ **YL to contact Jerome Fleiter to set up the flexible's tests (see Action #5).**

- Action #7: IFS flange design finalization (YL)
PC pointed out that the IFS flange of the DFHX is not included in the current manufacturing dossier. YL mentioned that the finalization of the IFS flange would have been taken over by AG but be it still needs to be confirmed.
→ **YL to arrange a meeting with FP and Jerome Fleiter to further discuss this point and agree on who will take it over**

DFM

- Action #1: Follow-up DSHM-DFM installation study in the LHC tunnel (YL, PS)
PS showed the main plan and status of the study. The study is progressing.

DFX

- Action #1: Production follow-up (YL)
New action, not discussed yet.

DSH (SC Link)

- Action #1: SC Link design validation (RB, PC)
Potential update of the SC Link end interface to a conical shape to facilitate the cables insertion. YL and PC underlined that, looking at the current design, there is not much to gain. Thus, no modifications will be done on the SC Link end interface. We decided to close this point.
- Action #2: Reel procurement follow-up (PC, RB)
Contract signed. Marc Careil is the technical contact. Delivery expected by November 2021 and test to be done by Q1 2022.
- Action #3: Reel design validation (PC)
Marc Careil performed a test on the existing reel design. Dedicated presentation from Erik Richards about the SC Link transport operations, available [here](#).

DFLH (Current Leads)

- Action #1: Finalize CL drawings (RB, PC)
Ongoing regular meeting with AP on a weekly basis to check drawings and agree about manufacturing needs and limits. Few modifications made on the drawings mainly concerning tolerances. Drawings are expected to be signed by Jerome Fleiter in two weeks.



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- Action #2: Production follow-up (RB, PC)
PC underlined the need of arranging regular meeting with Pierre Moyret (EN-MME, in charge of the CL production planning) to identify any potential stopper/issue in the manufacturing in order to ensure on-time delivery.
→ PC to contact Pierre Moyret to discuss and agree on the best collaborative way to follow-up the CL manufacturing.
- ~~Action #3: HSE conformity assessment (FdC)~~
PC suggested to exploit the same table created for the DFH (for gathering all the required documents) to request the PED conformity assessment to HSE.
~~**→ FdC to send to JF the Excel template to gather all the documents needed to request the PED conformity assessment to HSE.**~~
- Action #4: Review models and integration of CL's transformers boxes (RB, AG)
Transformer's boxes have been modelled and integrated in SM18/Tunnel. Dedicated meeting will be held involving RB and AG to review the models.

Cables & Splices

- Action #1: Splices & tooling design (RB, FP, PS)
FP confirmed that the design activities are still on-hold. FP and RB are waiting for Jerome Fleiter/Julien Hurte feedbacks before finalizing the design.
- Action #2: Design splices anti-pulling system (PC, RB, FP)
A first meeting was held to initiate the discussion. During the meeting Julien Hurte raised uncertainties concerning the actual flexibility of HTS. PC underlined the need of arranging dedicated recurrent meetings to follow-up these activities. As a starting point, a summary table of the HTS cable's requirements is needed.
→ PC to prepare an action plan to be then shared with Amalia Ballarino and Jerome Fleiter. The action plan will be circulated to the team.

3. AOB

- ~~PC suggested to include Current Leads lip welds as well as DFX-DCM interface lip weld (for Cluster F) to the weld qualification campaign (DFH - Action #1). → Done~~
- ~~YL suggested to include DFM lip welds to the weld qualification campaign (DFH - Action #1). → Done~~
- ~~YL suggested to add the follow-up of the DSHM-DFM installation study to the action list. → Done~~
- ~~YL suggested to add the DFX production follow-up to the action list. → Done~~
- PC will arrange dedicated meeting about the handling test of the SC Link
- YL requested to discuss the nominal position of the DFX's top plate in the LHC tunnel.

MC needs to know the exact location of the SC Link extremities. PC discussed with P. Fessia and they also need the position of the DFH's - SC Link interfaces.

→ YL to double check with M. Gonzalez the status



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Next Meeting: 12th of August 2021**Prepared by:** F.Di Ciocchis**Date:** 11-08-2021**List of actions:**

N.	Action	Owner	Due date	Status
DFH				
1	Follow-up weld qualification campaign	FdC, YL, RB		Ongoing
2	Finalize feet design ensuring compatibility with installation sequence	RB		On-hold
3	Perform test to validate flexible design	RB		Done
4	Measure actual flexibles lengths	RB		Done
5	Follow-up flexible design report approval	PS, DO		Closed
6	Flexible's tests follow-up	YL		New
7	IFS flange design finalization	YL		New
8	Blank assembly follow-up	FdC, YL, AJ		New
DFM				
1	Follow-up DSHM-DFM installation study in the LHC tunnel	PS, YL		New
DFX				
1	Production follow-up	YL		New
DSH (SC Link)				
1	Validate SC Link design	RB, PC		Closed
2	Reel procurement follow-up	PC		Ongoing
3	Reel design validation	PC, RB		Ongoing
DFLHA/ DFLHB/ DFLHD (Current Leads)				
1	Finalize CL drawings	RB		Ongoing
2	CL production follow-up	PC, RB		New
3	Send documents list to JF for HSE conformity assessment	FdC		Done
4	Review models and integration of CL's transformers boxes	RB, AG		Ongoing
Cables & Splices				
1	Finalize splices & tooling design	RB, FP, PS		On-hold
2	Design splices anti-pulling system	PC, RB, FP		Ongoing

