

TREX Meeting DRAFT Minutes PPS Rotation in YETS

Date: 22 Nov 2024

<https://indico.cern.ch/event/1476179/>

Attendees: Dmitry DRUZHKIN, Joachim BAECHLER, Mario DEILE (all EP-CMT), Dragoslav LAZIC (EP-UCM), Maria BARBARAN, Marzia BERNARDINI, Jean-Pierre CORSO, Bruno FERAL (all EN-ACE), Josef SESTAK (TE-VSC), Delphine Letant-Delrieux (TE-RAS), Roderik Bruce (BE-ARP), Safouane EL-IDRISSI (HSE-RP), Francisco SANCHEZ GALAN, , Oliver BOETTCHER (all BE-EA)

This TREX meeting is focused on the actions to rotate the PPS during the EYETS 24-25.

D. Druzhkin, J. Baechler & M. Deile presented the main points concerning the intervention.

<https://indico.cern.ch/event/1475443/contributions/6213420/attachments/2960991/5207968/Reinstallation%20of%20PPS%20in%20YETS%202024-2025.pdf>

1. Introduction

Joachim Baechler on behalf of the PPS team presented the drafted ECR (see <https://indico.cern.ch/event/1476179/#preview:5232513>) .

He introduced to the situation and the intervention to be realized.

The document includes machine layout graphics with highlighted flanges and bellows that need to be disconnected and removed by TE-VSC. These information had been reviewed and commented by the vacuum team, and an e-mail was sent before the meeting (J. Sestak to PPS team) with the required corrections. (Action item: VMAAB on L5 need to be disconnected, sketches need to be updated accordingly - Remark: Josef)

The sequence of work was explained.

The detector packages need to be removed from concerned stations first. Next beamlines can be vented, required flanges can be opened and bellows removed.

These first steps should be completed by end of week 49 due to other works for TE-VSC during the EYETS.

In a next step the rotation of the first station would be realized starting with the least activated stations for RP Safety reasons. Generally the roman pot stations need to be disconnected from their services (cooling and cabling) then the lifting frames will be installed, they will be lifted, rotated and the rotation brackets will be installed. After this the stations will be re-installed on their new brackets. Lifting range for this manoeuvre is about 50cm.

Special intervention concerns two stations that are already inclined 8°. These will be put straight back on their original seats before getting rotated to 27°. Lifting range for this manoeuvre is about 20cm.

Weights are included in the document : Single station are 65kg, double stations 150 kg. (tbc)

Risks related to handling need to be studied further and mitigated. And tipping needs to be avoided.

Handling manoeuvres had been all realized already and procedures exist. For this ECR these procedures could be used (Action item PPS team: refer to ECRs describing handling of stations in the past.)

Services need to be disconnected at the moment of removal of detector packages and before moving the stations.

EP involvement has been granted, EN-CV need still to be informed (Olivier Crespo)

The first station should be rotated in December in order to learn from the intervention and further develop the procedure. At that time, feedback will be given to RP to fine-tuning the WDP.

The stations need to be tested in the new position as rotation was not in the design of Roman Pots: about a 1000 cycles of tests motorized movement is foreseen to be realized and as well the spring extraction functionality to be tested under rotation.

There was a discussion about activities after full re-installation of the XRP flanges and bellows, the proposed sequence after discussion is as follows:

- Bake-out
- Reinstallation of Detector Packages
- Fiducialization
- Connection to the services
- X-ray

Discussion:

Francisco asked if EN-EL is needed for de-cabling or cabling, PPS confirmed that the electrical disconnections will be done by EP (Xavier Pons). Bruno asked whether an electrical lock-out is required, this needs clarification.

It has been confirmed that EP-DT is involved of disconnection of the cooling lines, and cooling part of heat exchanger is CV (Olivier and Daniel to be informed).

Josef stressed out that for TE-VSC intervention BPMs and BLMs shall be removed to avoid any damage. (Action item: Michal Krupa - Gerard Schneider to be involved. Josef sends to Mario Deile the equipment list.)

Delphine asked if the work requires to go under the QRL lines. Joachim stated that this need to be considered. Although it is not foreseen, it could be the case. A exceptional authorization request

need to be launched with reference to the ECR). All actors need to be part of the document for the exceptional authorization request.

Planning and coordination milestones:

Safoane asked why starting so early-- Joachim answered that TE-VSC intervention need to be completed before week 51 and with all steps before this brings to wk 49 detector packages need to be removed. First station to rotate will be done on a station away from high radiation

Safoane explained that RP survey measurements will happen Wednesday 27/11/. Cooling liquid will be RP tested at the beginning of the next week. Thursday 28/11/ PPS team could start removing detector packages. Maria stated that Friday 29/11/ access will be closed.

This date is agreed for the removal of the Detector Packages, with a back-up for completing the activity on Monday, 2nd Dec.

Two DMIRs will be realized separately for 5L and 5R (Action item: WDP need to be established that can be validated and attached to DMIR before the intervention of Thursday.)

Josef: PPS team should concentrate to complete detector package on one side, then do the second side. Week 49 and 50 could be for venting and disconnection. All IMPACTs to be created, then connected to the DMIRs

ECR validation and administrative steps of project validation:

- ECR will be circulated asap, awaiting approval by LMC on 4 December.
- Detector package removal can be declared as service intervention - doesn't need special authorization.
- VSC acknowledged that when locations are clear, they give green light to the PPS team. (see above mentioned correction of the definition of flanges and bellows to open and remove)
- A green light from LHC (M. Lamont) shall come before intervention of VSC. Bruno Feral proposed to establish an Engineering note describing the intervention of TE-VSC and allowing to validate the intervention before.
- Exceptional cryo access authorization:
 - o A exceptional request will be submitted for approval concerning the intervention of VSC and removal of BPM & BLM, that require hands-on intervention. No mechanical handling, nor passage to the QRL side would be required in the first 3 weeks of the EYETS. The exceptional authorization can be prepared considering ECR approval on 04/12/ and considering that a dedicated VIC about handling (4-5 december) will be organized with the lifting equipment in place prior to first handling intervention.

Other:

- Jean-Pierre reported on discrepancy in the 3d models (missing components from lay-out). It was supported and agreed that the models & lay-out should be corrected in the course of the project, after the intervention is finished.
- Maria will send new schedule (see the schedule in the indico
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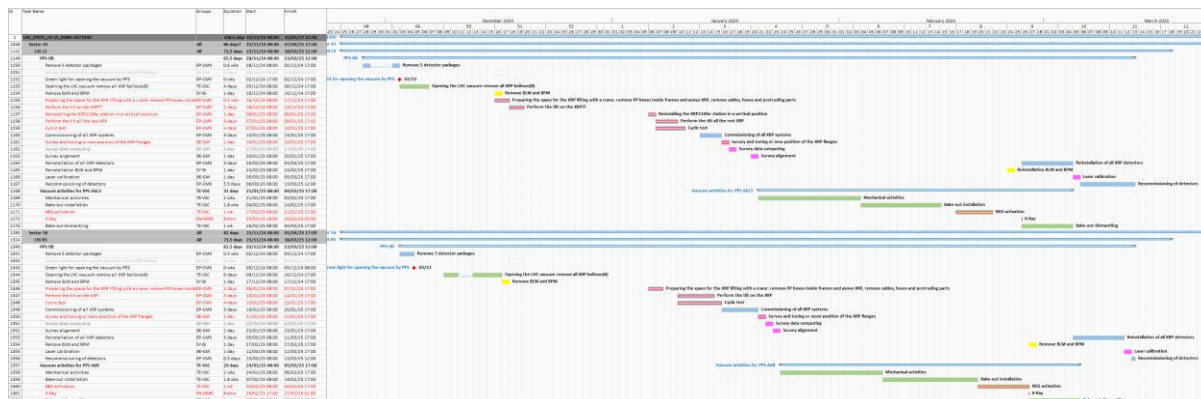
- The next TREX taking place in 6 December 2024.

2. Actions/next steps

- PPS Team/B. Feral: Circulate the ECR with the latest updates from VSC (comments by J. Sestak) and schedule (provided by M. Barberan)
- PPS Team/ VSC: Prepare the Exceptional Authorization Request for accessing QRL
- PPS Team/VSC/RP WDP need to be established that can be validated and attached to DMIR before the intervention of Thursday.
- PPSTeam Create an IMPACT for the intervention on Th 28 Nov
- Maria will send new schedule (**DONE** see the schedule below & in the indico)

Next Meeting: [Friday 6 Dec 2024]

Schedule provided after the meeting by Maria Barberan, attached to the indico page (<https://indico.cern.ch/event/1476179/>)



Minutes prepared by Oliver Boettcher & FSG.