

The proposed usage of new PS wall current monitors

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Introduction:

The present document aims at clarifying the use of two new upgraded wall-current monitors (BCW) in sector 3 of the PS.

Overview

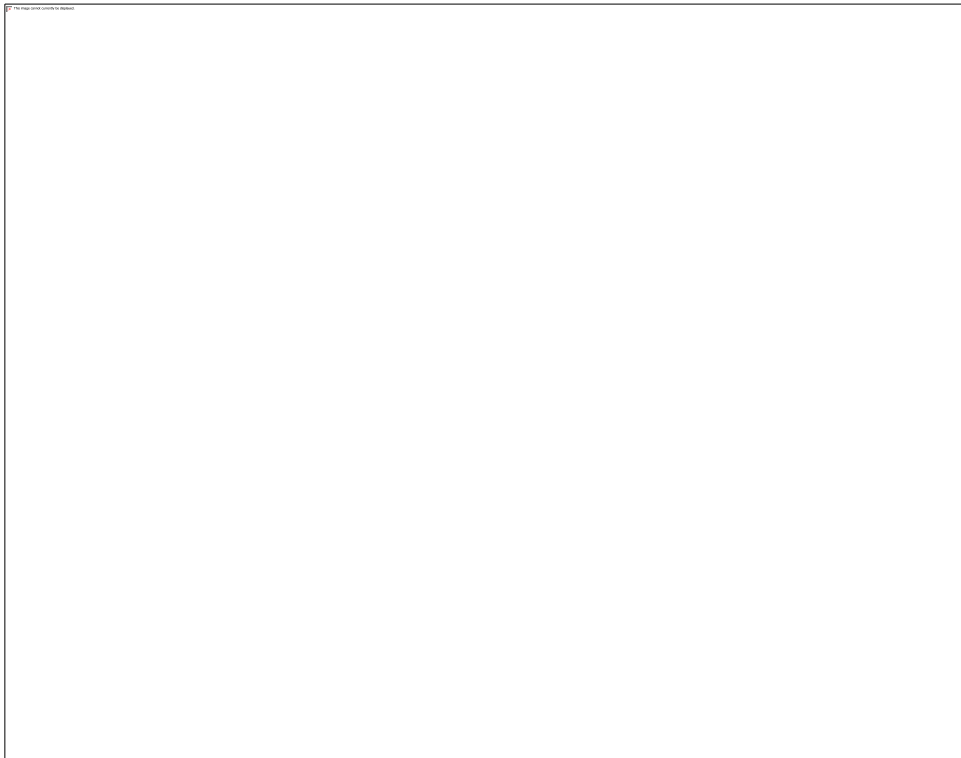


Figure 1: Schematic overview of the installation before the new BCWs are installed

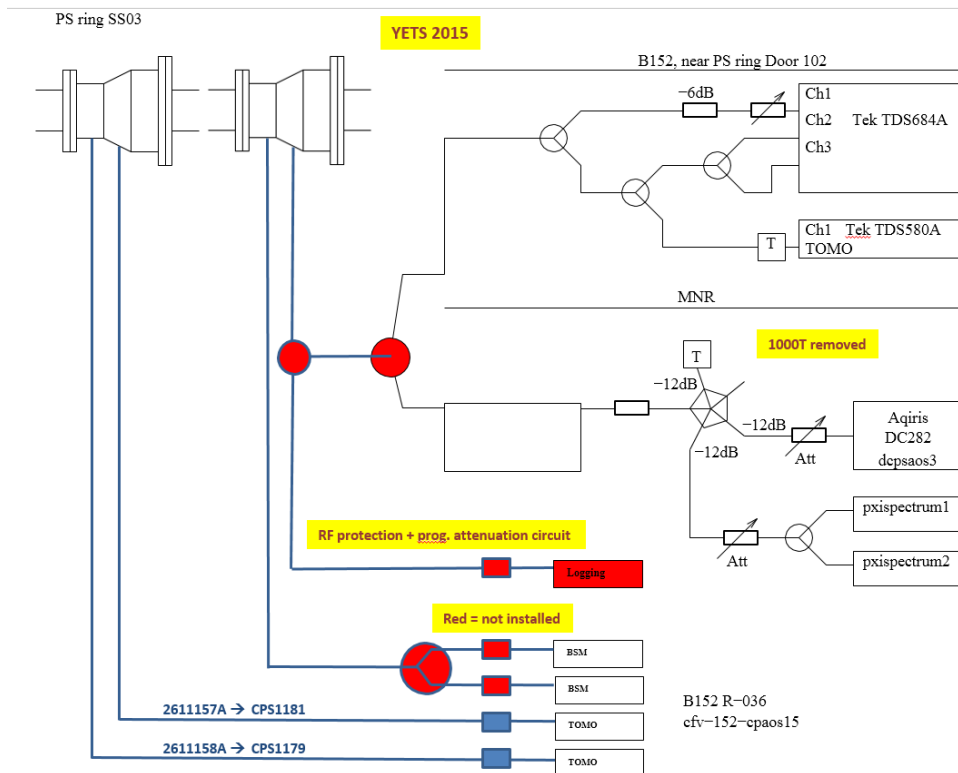


Figure 2: Proposition installation to be done during YETS 2015

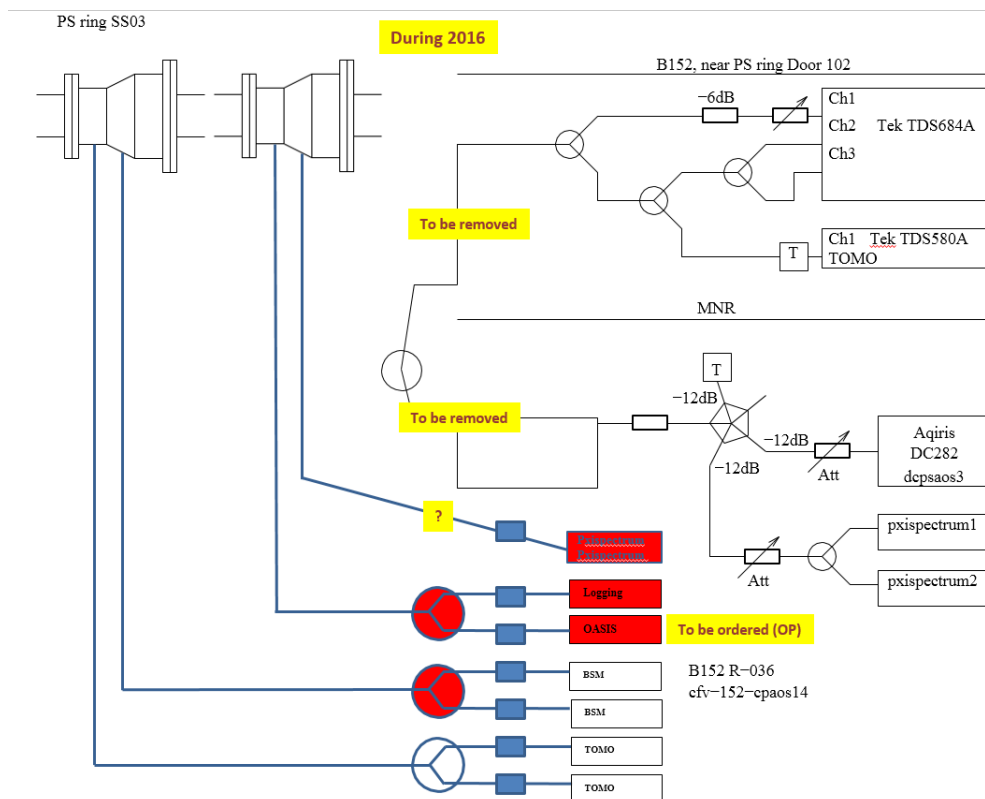


Figure 3: Proposition installation to be done during 2016

Detectors

Two upgraded wall-current monitors will be installed in sector 3 of the PS ring during the 2015/2016 YETS as specified in (<https://edms.cern.ch/file/1290662/1.0/PS-WCM-EC-0001-10-00.docx>).

Cables and attenuator/protection

- The cable to the present BSM/TOMO digitisers will be connected to maintain the present functionality until the new BSM and TOMOscope devices have been fully validated in 2016.
- Same for the cable going to the MNR will be connected to maintain the present functionalities for the high sampling rate OASIS channel with burst trigger (OP/ABP on-demand analysis) and the PXI spectrum analysers for frequency analysis
- 4 new cables already pulled from the WCM to the Bld. 152
- All current installed OASIS cards (4) have programmable attenuator, but only the TOMOscope ones also have the RF protection circuit. Instead, the BSM ones have an additional 3dB attenuator.

After commissioning the new WCMs (Agreement OP, RF, ABP, CO and BI)

- **Ghost detection nor beam analysis after rotation are no longer requested in the PS.** The SPS will have a ghost detection and it is sufficient to use it.
- Signal for the 1000 turns not needed.
- **After YETS 2015 :**
 - Two channels (1 WCM detector) will be only used for the TOMOScope
 - 1 channel to be split for the 2 BSM
 - 1 channel to be used by the logging + splitter to the old electronics (MNR)
- **During 2016 :**
 - One channel split for the TOMOScope
 - One channel split for the BSM
 - One channel split for the Logging and OASIS on-demand study
 - The equipment presently in the MNR should be moved to the room of the 'new' digitisers (b152)
 - OP and ABP need the OASIS (dcpoas3) for on-demand acquisition. New card in the OASIS crate to be added (6 in total)
 - Rende mentioned that one PXI spectrum analyser ('pxispectrum1' under EN-STI responsibility) is currently being used/tested
 - **New request for a spectrum analysis system from BI (same as for LEIR)**
- **The attenuation of the new RF circuit (attenuation + clamping) is programmable** and can be changed using OASIS
- **Jeroen confirmed that the 2 WCMs will be installed during YETS**
- We (BI) need to move the budget for the Guzik from PS-LIU to SPS-LIU