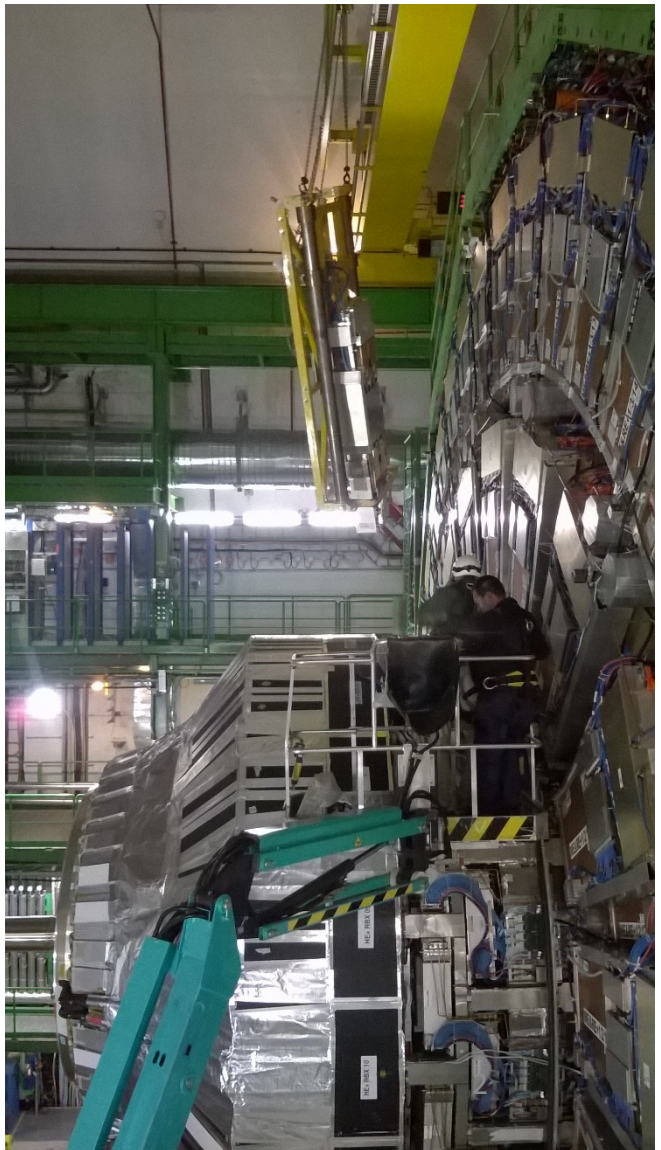
Report of Jan 23

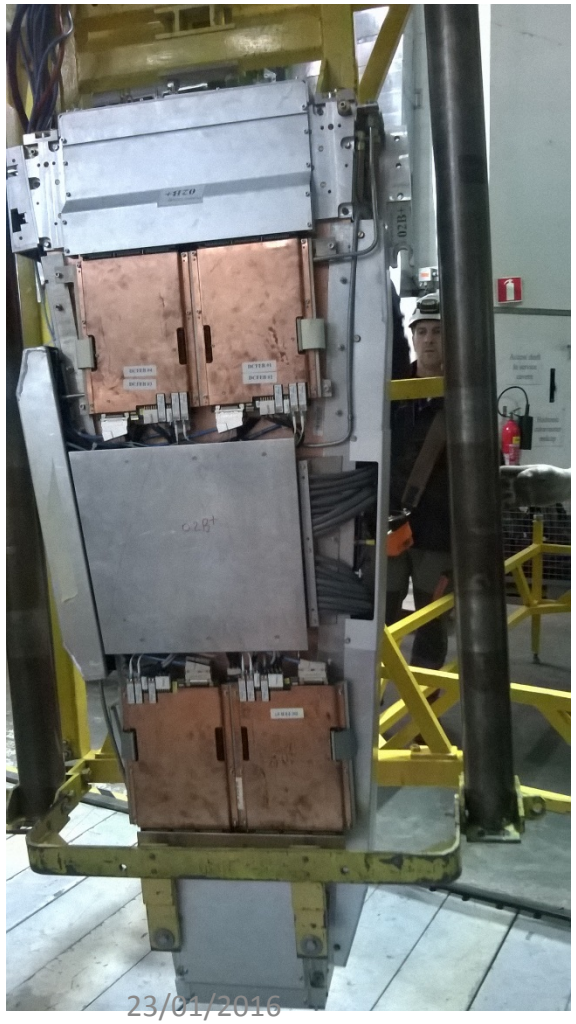
ME+1/1/13

Chamber extraction

8AM CSC crew and crane operator extract ME+1/1/13 chamber from YE+1 nose

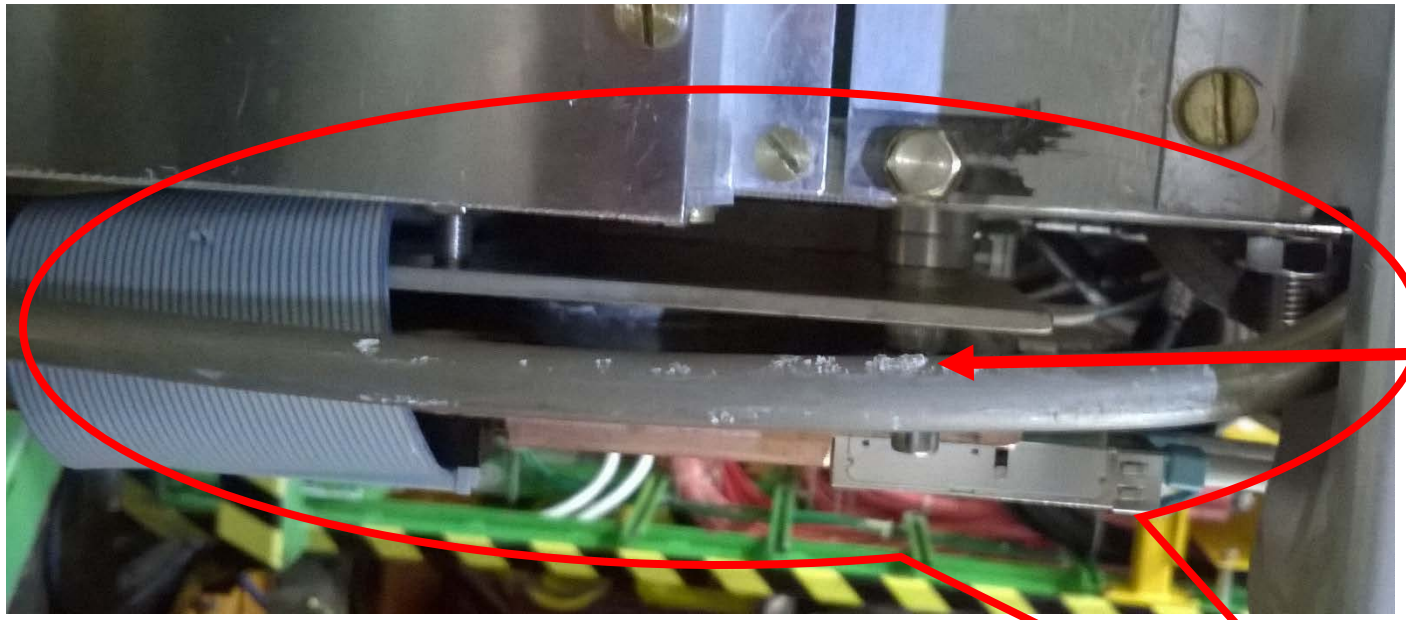


Chamber on the floor of UXC55

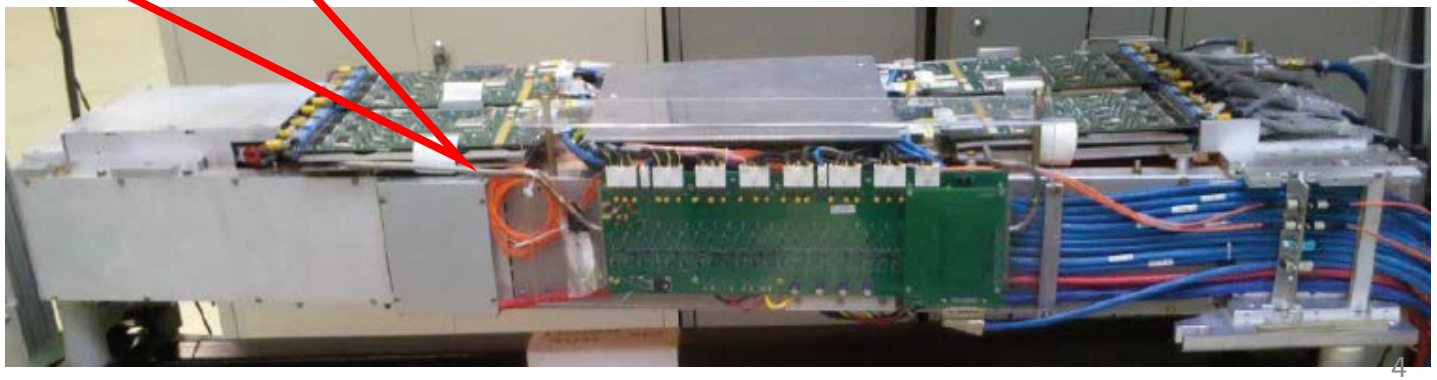


9:30AM Chamber on the floor of UXC55. First visual inspection while waiting for RP clearing

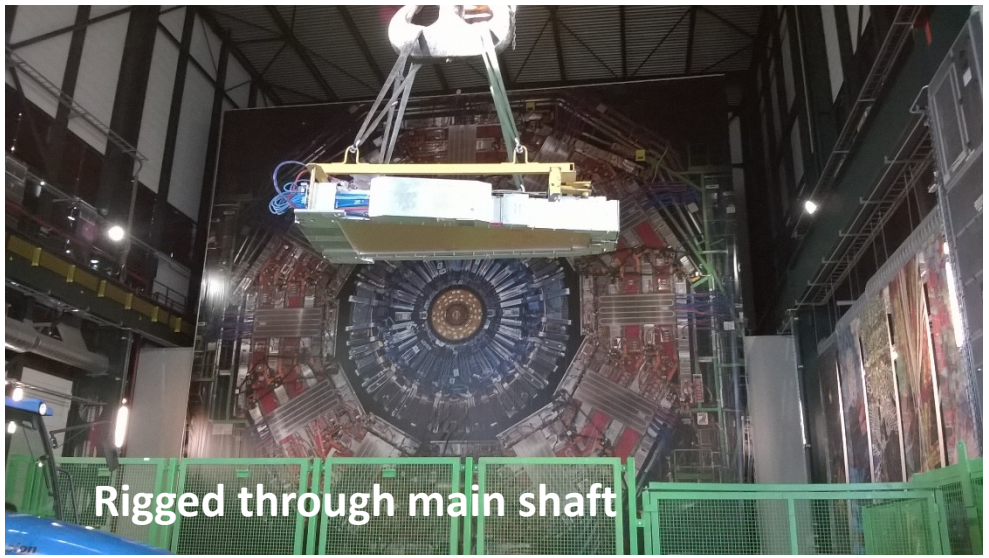
Visual inspection

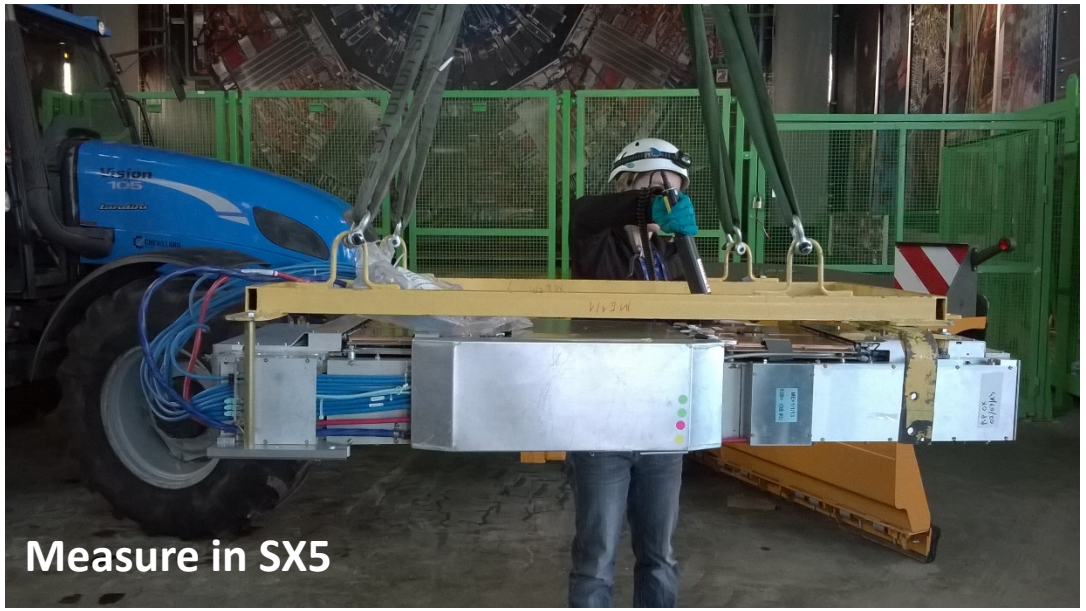


9:30AM Chamber looks ok. No signs of damage or water deposits on any sensitive parts.
A closer inspection of one of Cu cooling pipes running along the chamber side and close to the narrow end of the chamber shows some powder-like white deposit, similar to what is seen at the lowest point of the YE1 nose when the wrap has been removed



RP measurement and rigging to SX5 via PM56 shaft

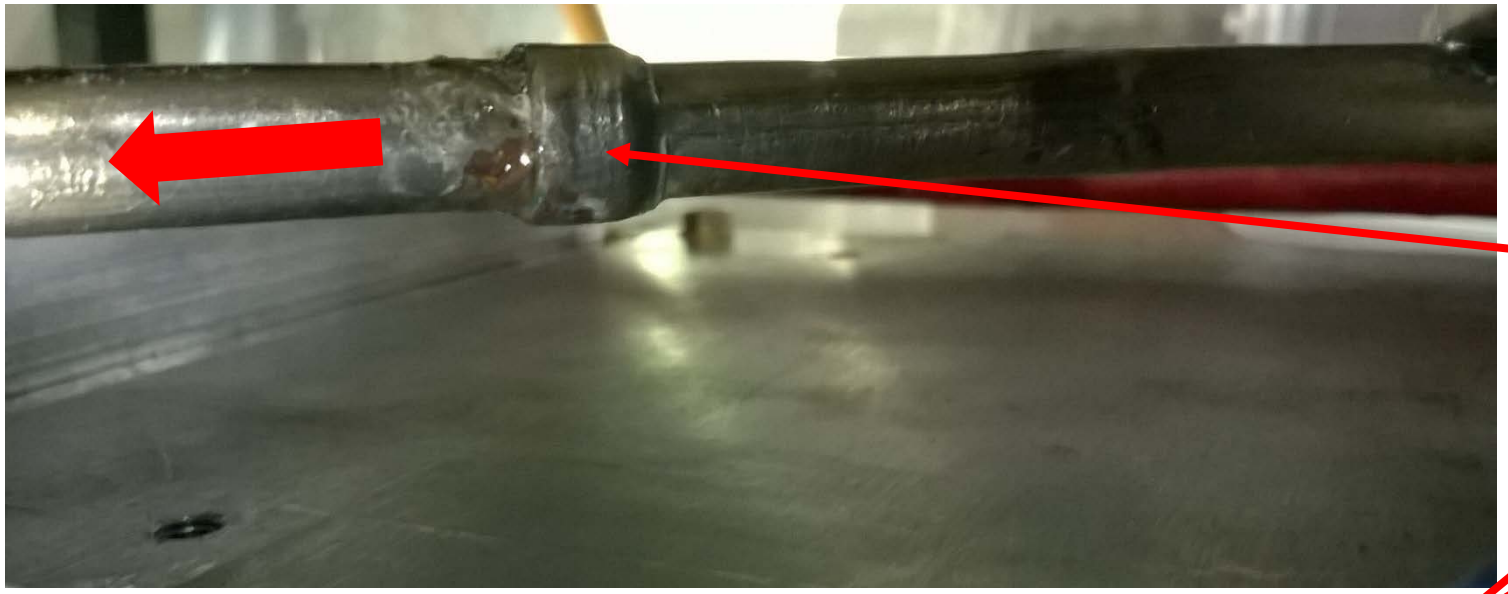


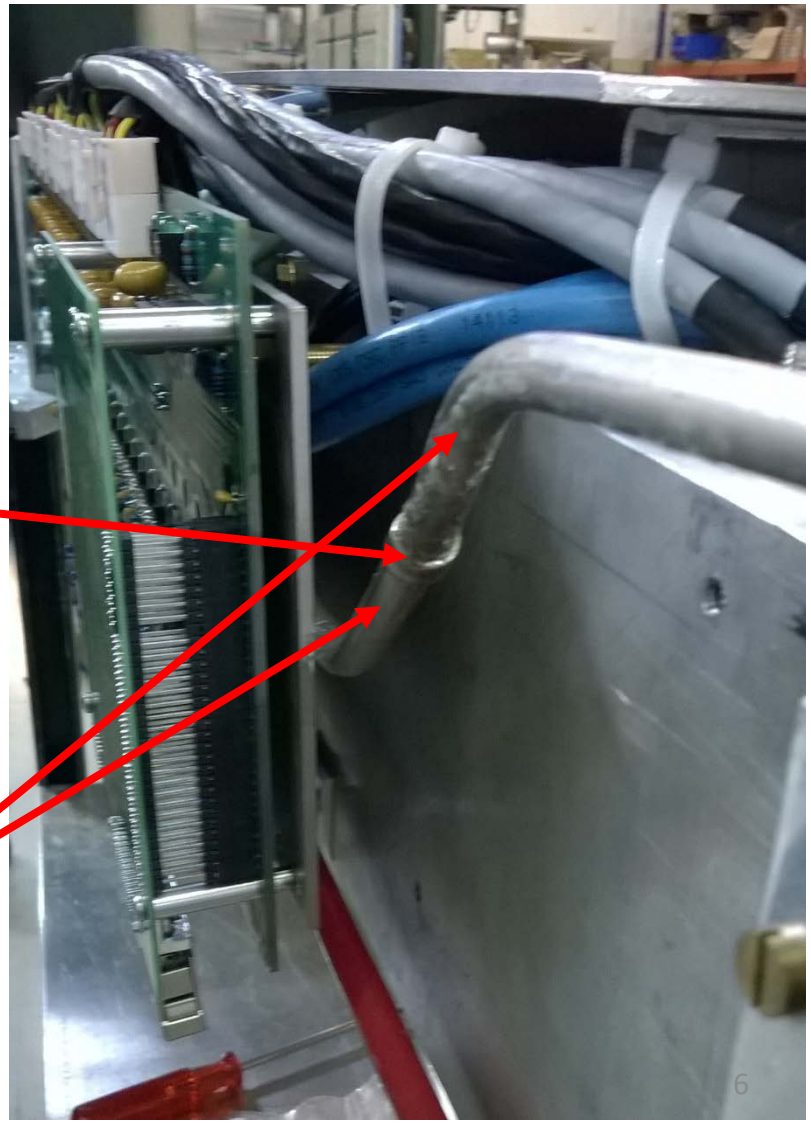


11AM Rad levels are comparable to background contamination in UXC55. Chamber can be moved to ME1/1 lab area and disassembled

Dismount cover panels and inspect piping

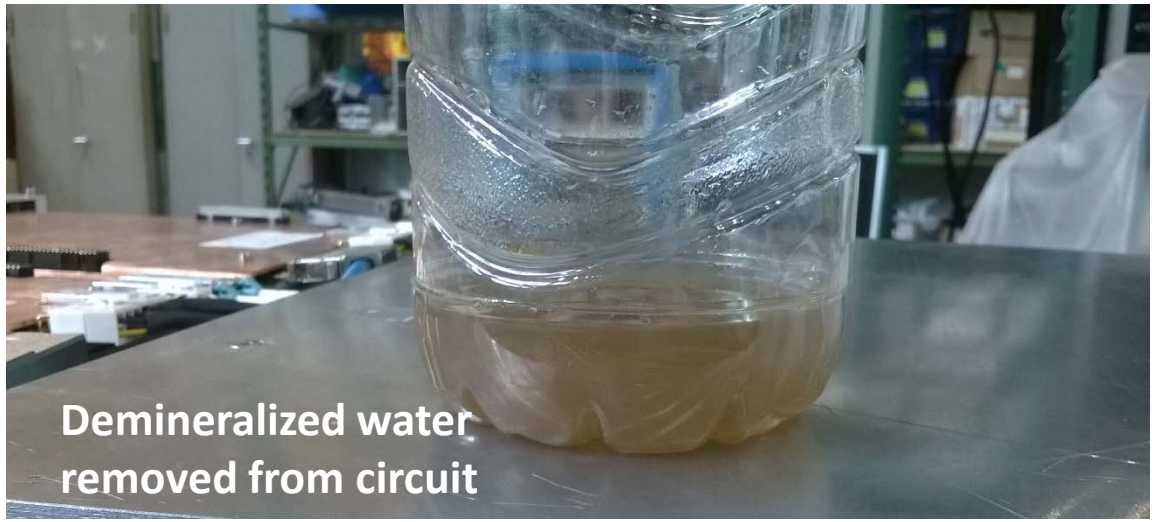
11:30AM Side protection covers removed. Visual inspection of pipe soldering point (1 of 4 along the cooling circuit) shows signs of water stain only on one side of the joint indicating water leak path.

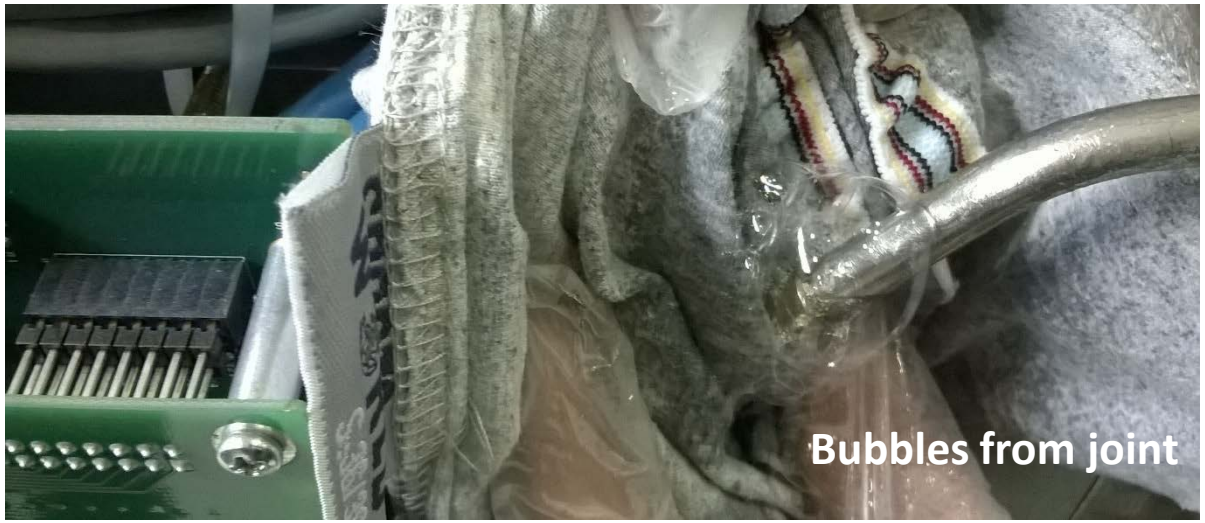




Pipes on both sides of joint look slightly misaligned, but that is just speculation

Empty cooling circuit and test with gas





Rest of the day:

- Collect white dust for chemical analysis
- Empty cooling circuit. Water appears rather brownish!
- Pressurize cooling circuit with N2 gas at 4bar. Leak check 4 joints along cooling circuit using 1000 bubble
  - Use gas and not water to avoid circulating water from different supply thus washing out useful analysis clues
- The suspected leaky joint shows clear sign of leak (bubbling). All other joints are tested fine
- Dismount chamber electronics and cabling. Expose cooling circuit

Preliminary plans

- Monday and following days
  - Cut a few cm of the pipe around the leaky joint. Send sample to metallurgy for post-mortem analysis
  - Send samples of collected white deposits and water removed from circuit to chemical lab for analysis
  - Prepare a new cooling circuit (from one of spare chambers) for replacement
  - Reassemble cooling parts and test
  - Reassemble electronics and test
  - Ready for re-installation
  - Estimated time ~1 week