MBHHE.X0611085 incident and mitigation
TE-MSC

Philip Schwarz

03.09.2024

Incident and mitigation timeline

- **06.08.2024:**
  - CCC informed that "coil temp" fault was present
  - Thermal camera inspection showed too high temperature
  - After investigation, broken strainer was found (see picture)
  - Circuit was backflushed and operation resumed

- **11.08.2024:**
  - CCC informed that "coil temp" fault was again present
  - Expecting a blocked water circuit due to the broken strainer, a thermal camera inspection was repeated to find it
  - No clear difference in temperature between the circuits was found and after disassembly of the manifold, no signs of obstruction found

Incident and mitigation timeline (continued)

- **11.08.2024 (continued):**
  - The manifold was reassembled and restart of the magnet requested
  - The magnet tripped again after 30 minutes of operation
  - Further investigation of the operating conditions revealed an inlet temperature of about 31 degrees (in comparison to the usual 27) and as the magnet operates quite close to its' limit at 800 A, the switch-off was linked to its normal overtemperature protection
  - In agreement with the experiment, operation of the magnet was limited to 740 A to avoid further trips until the inlet temperature could be confirmed to remain at 27 degrees with EN-CV
  - EN-CV inspected their circuit and found a partially blocked filter before the heat exchanger

- **15.08.2024:**
  - The main circuit filter was cleaned and normal operation could be resumed at 27 degrees

Situation now and future actions

- **The experiment finishes data taking tomorrow**

- **As they had to operate at two different current levels, they requested a magnetic measurement of the magnet in order to have precise field levels for both currents**

- **The magnet will be transported to 867 to the magnetic measurement station and have its' BH-curve measured.**

- **It will furthermore be inspected more thoroughly for any partial clogging or other issues that could have arisen from the broken strainer**

Questions?

Thanks to all involved groups for their support,

enabling a quick mitigation of the problem!