Marc McMullen

2025-05-19 ECAL alarm handler meeting

**Attendees:** P. Bonneau, B. Eng, D. Jones, T. Lemon, M. McMullen

**Hall A – ECAL**

DSG met with Hall A to discuss the ECAL controls issue which occurred on 05/18/2025, when the controls temperature readback channels 17 to 32 stopped updating. The values were stuck at the last read value updated. The overall effect on the detector was cooldown.

Hall A currently has an EPICS monitoring script which checks to see if the controls temperature channels are updating. This system evaluates the current value versus the previous value, if it determines that the channel is not updating, a counter increments. If the channel is updating, the counter increments decrements. If everything is normal, the counter value should be around zero.

The EPICS alarm handler monitors the counter, and alerts the shifters if the counter reaches 35. In this case, the shifters were not alerted because the EPICS PVs/IOC had been rebooted and the alarm setpoints reverted to default values. However, the counter was incrementing.

Today Hall A updated the method of IOC recovery so that the alarm setpoints are set in the database file, which essentially hard codes them in the system. Since the alarm counter did increment, once the alarm threshold is reached, the shift crew will be notified.

In addition to the 48 channels of controls temperatures, the ambient temperature is also monitored in EPICS with alarm parameters.

Some procedural changes for the ECAL heater system:

1. The shifters will receive training on visually checking the alarm handler to ensure that it is operating.
2. The heater controls will be turned off if there is no shifter to monitor it.

Engineering update:

1. Hall A is sourcing additional radiation shielding for the system

Hall A has informed DSG that the current method of alarm handling for the system is appropriate, but will be re-evaluated if necessary.

DSG has continued to develop and test safe-guards for the system. Upgrades will be done in the future after development and testing.

DSG has encouraged Hall A to present suggestions for enhancements of the system. All information will be disseminated via the mailing list and/or meetings.