

DSG-ECAL Controls Meeting

Date: February 27, 2023

Time: 10:00 – 11:00

Attendees: Aaron Brown, Peter Bonneau, Pablo Campero, George Jacobs, Brian Eng, Donald Jones, Mark Jones, Marc McMullen, Bogdan Wojtsekhowski

1. Heater controls test update

Marc McMullen

1. A presentation was given to update the status of the heater design
 - The new design specification will be 92 W at 48 VDC
 - The design change has been reviewed by DSG and has been sent for a quote to Custom Heaters and Research
 - No cost change
2. Started a third test of the heater on 02/17 at 92 W and will continue for at least a full seven-day test
 - A second inch of mineral wool insulation was added around the supermodule
 - Three inches of mineral wool are at the front end of the insulation enclosure
 - The front flange temperature is being controlled to 250°C
 - The crystal face temperature has peaked at ~182 °C



2. Controls

Marc McMullen

1. Hall A suggested that the action of controlling the heaters with relays may introduce noise during the in-rush current spike
 - Discussed the differences in using adjustable supplies vs. switching AC/DC converters with relays
2. DSG suggested that Hall A conduct noise testing using a scope during the upcoming six-supermodule test; relay-induced noise could be masked

3. Upcoming activity

DSG

1. Continue developing diagram of the full detector system of heaters (188 units)
2. Purchase power supplies for testing
3. Order twelve to fifteen 48-V, 92-W heaters for testing in March
4. Continue developing controls for the six supermodule test
 - Modify the software and expand the power supply and relays
 - Develop remote monitoring with Phoebus and WEDM