

DSG-NPS R&D Meeting Minutes

Date: August 01, 2023

Time: 02:00 PM – 02:30 PM

Attendees: Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, and Marc McMullen

1. Debugging thermal readback and chiller controls

Mary Ann Antonioli, Aaron Brown, and Brian Eng

1. Discussed problem with temperature setpoint readback for both the crystal zone and electronics zone chillers
 - After the LabVIEW program is stopped and restarted, the chillers do not read back the correct value for the temperature setpoint—default value is 20°C, but are reading 634.4°C
 - LabVIEW code is written so that the chillers cannot be turned on if the setpoint and the readback setpoint do not match
 - To recover, temperature setpoint must be changed to a value other than 20°C until the chiller reads back the correct value
 - Contacted Kodiak/Boyd; awaiting response

2. Hardware

1. Discussed possible reasons the cRIO might have rebooted
 - Over the weekend, the cRIO either lost power or rebooted itself, which led to the chillers being turned off and back on
 - cRIO was the only machine in the detector hut to reboot, so it wasn't due to a power outage
 - Will archive the cRIO heartbeat and the program uptime in order to pinpoint when program interruptions occur

3. Ansys mechanical transient thermal analysis

Aaron Brown

1. Worked with Ansys technical support to resolve issue of steady state and transient thermal simulations results not agreeing
 - The material assignments for the models used in the transient simulations (which were duplicated from the steady state simulation) all were reset to the system default of structural steel and heat flux was used instead of heat flow; fixed issues
 - Steady state and transient simulations now have the same result

