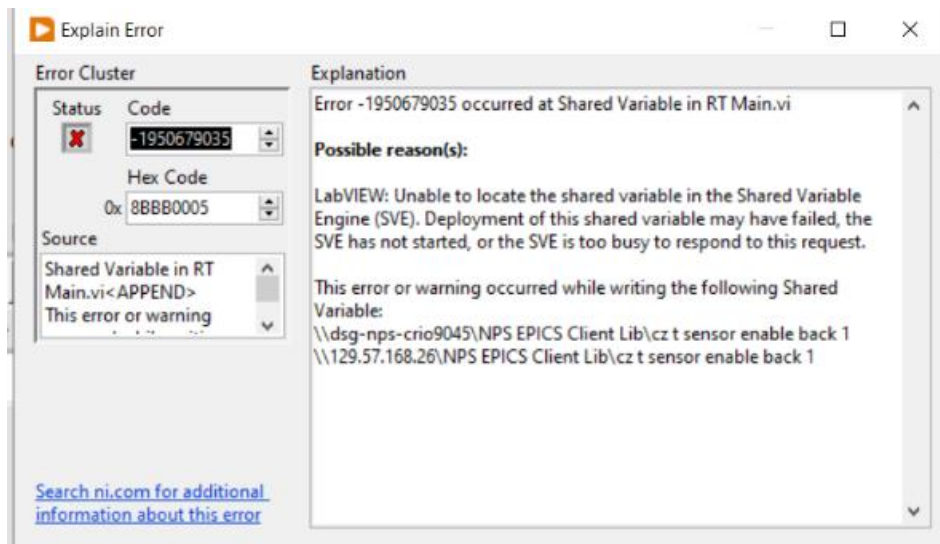**DSG-NPS R&D Meeting Minutes**

Date: July 11, 2023
Time: 02:00 PM – 02:15 PM

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

1. **Thermal readback**
   Mary Ann Antonioli, Aaron Brown, and Brian Eng
   1. Discussed progress of debugging of thermal readback LabVIEW program
      - Reviewed shared variable engine errors related to Boolean controls

      - Changed all Boolean shared variables to doubles in the EPICS client library
      - Modified the code to change Booleans to doubles (Bool to number) when sending values from LabVIEW shared variables to EPICS shared variables
      - Modified the code to change doubles back to Booleans when sending values from EPICS shared variables to LabVIEW shared variables
      - This seems to have resolved most of the EPICS communication issues
      - There are still problems with some of the double PVs (for example, the trip delay value) where LabVIEW is not sending the values to the EPICS shared variables
        – Possibly, the EPICS client library is too large for LabVIEW to properly deploy all PVs at once; will try breaking this library up into multiple smaller libraries
      - The length of the array containing all of the scanned sensor values from the Keysight mainframe changes if a multiplexer is absent or not connected properly
        – The program continues to run as normal and skips over the problem multiplexer sending an empty set to the array
        – This is a problem since within the LabVIEW program, sensor readings are referenced by array index; if the length of the array changes, the index changes
        – Will need to modify code to ensure the length of the Keysight values array remains fixed