

Phoebus Screens for NPS

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I completed the Phoebus screens that communicate with the LabVIEW monitoring and interlock program for NPS. This month, the monitoring screen and the control screen were developed for the two Hall sensors, Fig. 1, and the six cooling sensors, Fig. 2.

- Four Phoebus screens were developed
- Temperature, humidity, and dew point will be monitored and controlled for the Hall
- Supply temperature, supply pressure, and supply flow will be monitored and controlled for the chiller coolant in the crystal zone and electronics zone

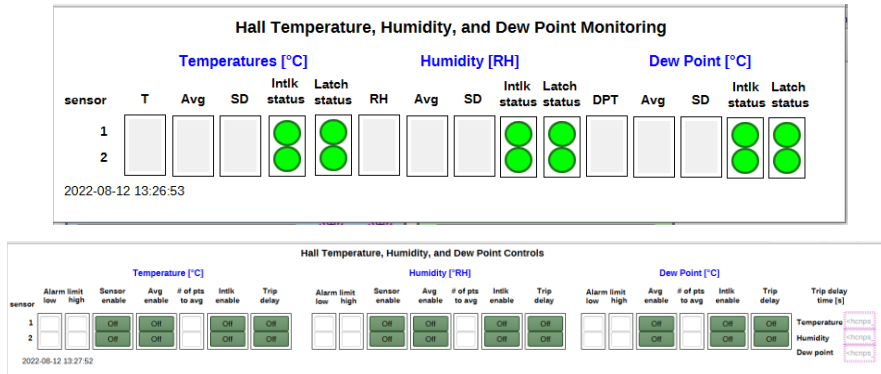


FIG. 1. Phoebus screen to monitor the Hall (upper) and screen to control monitoring variables (lower).

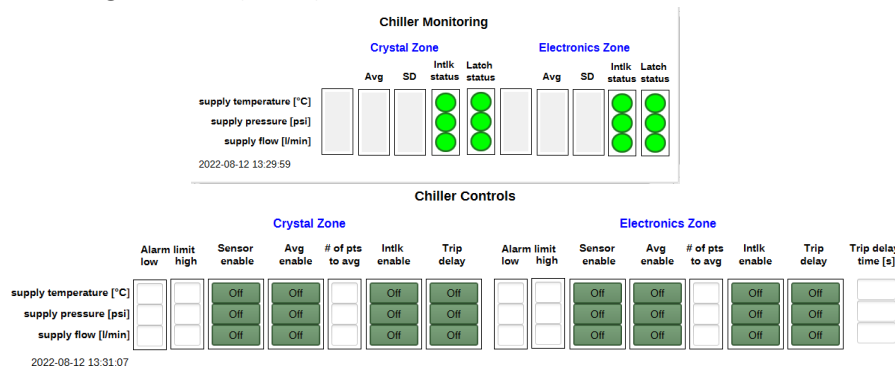


FIG. 2. Phoebus screen to monitor the chiller cooling sensors (upper) and screen to control monitoring variables (lower).

LabVIEW Hardware Interlock Program for NPS

The Hall monitoring screen will display temperature, relative humidity, and dew point, and the averages and standard deviations of each of those values, for two sensors. The latch status and interlock status will also be shown.

Using the controls screen, the high and low alarms and number of points to average can be entered for each sensor, for each type of monitoring. The time to delay before a trip—the trip delay time—can be entered for each type of monitoring. Buttons will be used to enable a sensor, enable averaging, enable interlocking, and turn on or off the trip delay.

The two screens for chiller coolant are very similar to the Hall screens, except supply temperature, supply pressure, and supply flow will be monitored and controlled. Two areas will be monitored and controlled—three sensors in each of the crystal zone and the electronics zone.

The screens were tested and debugged for proper communication with the LabVIEW program. Most issues found were discrepancies between the LabVIEW variables and the Phoebus process variables. Once corrected, the screens worked as expected.

Next month I will continue with the LabVIEW controls and monitoring program and make Phoebus screens that will communicate with the chiller.