Chiller Phoebus Screens for NPS

Mary Ann Antonioli
2022-08

Phoebus Screens for NPS

I completed the controls and monitoring Phoebus screens that communicate with the LabVIEW drivers for the two NPS chillers. Two screens were created—the main screen, Fig. 1, and the expert screen, Fig. 2.

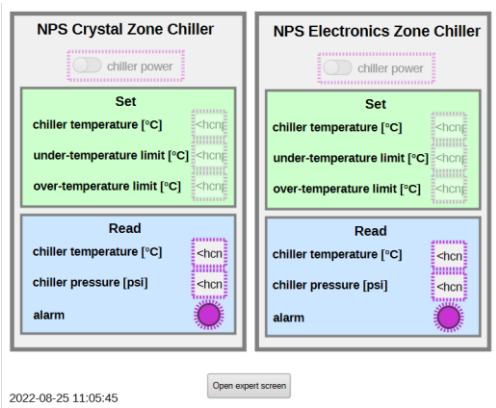

FIG. 1. Main Phoebus screen to control and monitor two chillers.

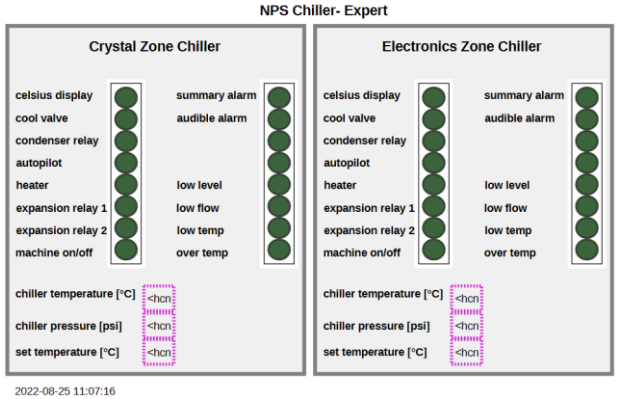

FIG. 2. Expert Phoebus screen with alarm information.

.

- **Two chiller Phoebus screens were developed**
- **Main screen allows setting of chiller temperature, under-temperature limit, and over-temperature limit, and reading of chiller temperature and pressure. Any present alarm is indicated with an LED.**
- **Expert screen has chiller information and alarm LEDs, and indicators for chiller temperature, pressure, and set temperature.**

LabVIEW Hardware Interlock Program for NPS

For each chiller, the main chiller screen allows the chiller to be turned on or off and setting of the chiller temperature, the over-limit temperature, and the under-limit temperature. The chiller temperature and pressure are displayed. The LED indicator shows if an alarm is present, dark green if no, bright green if yes. (Because the screen was not connected to the chiller at the time of the screenshot, the LED is shown as purple.) The button at the bottom can be clicked to open the expert screen for additional information.

The expert screen has two columns of LED indicators, lit bright green if on. The left column supplies information concerning the chiller and the right column indicates an alarm. If the computer mouse is hovered over the text to the left of the LED, additional information is given concerning that LED. Chiller temperature, chiller pressure, and the set temperature are indicated below the LEDs.

The screens were tested and debugged for proper communication with the LabVIEW program. One issue found was the incorrect wiring of the LabVIEW driver that reads temperature, indicating an incorrect temperature by a factor of 100.

Next month, these Phoebus screens will be added to the overall NPS controls and monitoring program.