

# DSG-R&D Phoebus Meeting Minutes

Date: September 15, 2023

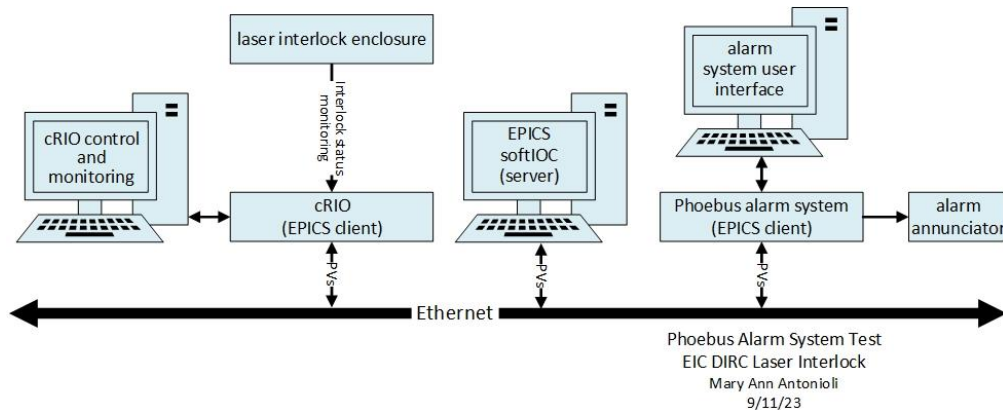
Time: 2:00 PM – 2:20 PM

Attendees: Peter Bonneau, Aaron Brown, Pablo Campero, Tyler Lemon, and Marc McMullen

## 1. Development of EIC DIRC Phoebus alarm system test

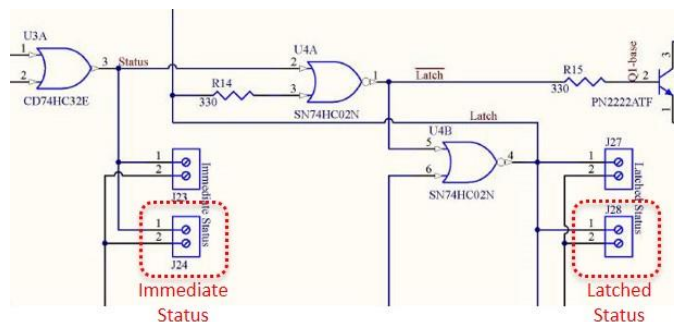
Peter Bonneau and Tyler Lemon

- The Phoebus alarm system will monitor the status of the EIC DIRC interlock PCB



- Discussed the readout of laser interlock signals

- The NI hardware has been ordered and is expected by October 20<sup>th</sup>
- For an interim test, readout hardware will be implemented with available spares
- An ADC will monitor (digitize) the laser interlock immediate status and latched status signals
  - A TTL high level on the status signals disables the laser
  - The immediate signal is the instantaneous interlock status value which will latch (latched status) until operator intervention
  - A connector will be added on the interlock enclosure for the signals readout by the alarm system cRIO



Phoebus Alarm System Test – EIC DIRC Laser Interlock PCB Signal Monitoring

- Discussion of Phoebus development computer for DIRC test

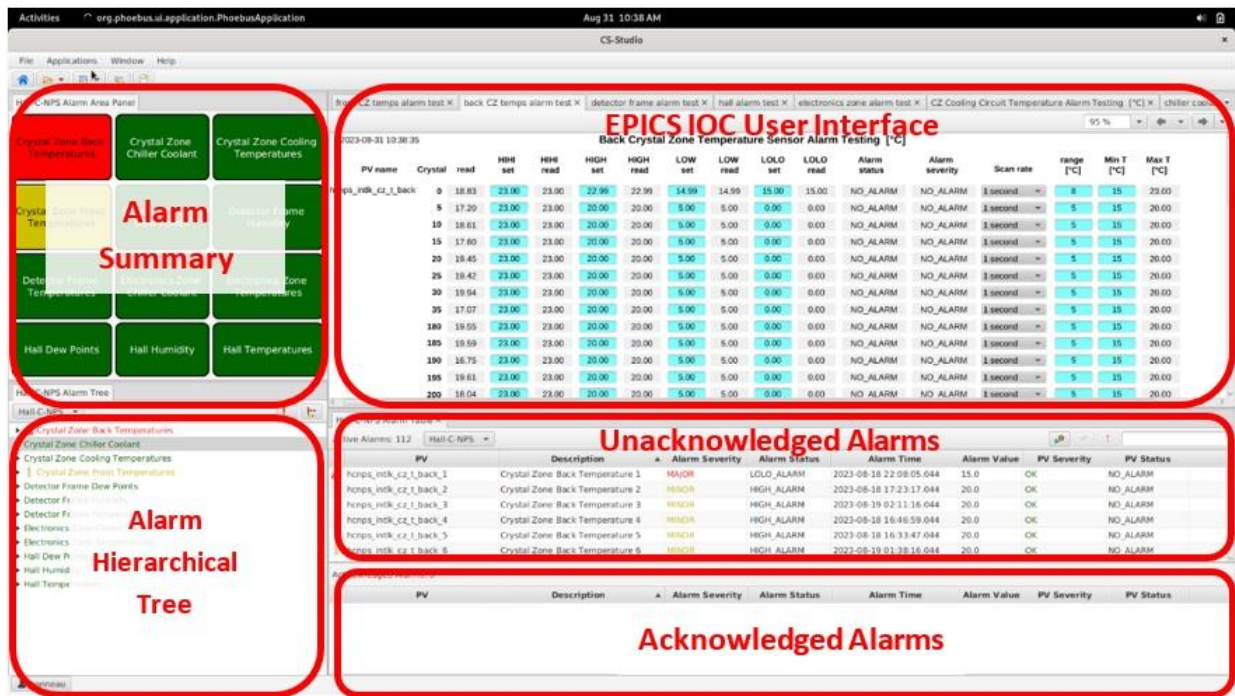
- Cloned precompiled Phoebus v4.6.10 development system
  - System installed on external USB C – SSD
  - Internal SSD has MS windows

- Adapting Linux and Phoebus core programs for EIC DIRC development laptop
- An adapter port has been ordered (due 09/15) for the USB C – SSD and Ethernet connections

## 2. Phoebus alarm system test with NPS detector signal simulator

*Peter Bonneau*

1. Demonstrated the operation of the Phoebus alarm test system
  - Linux login for the Phoebus development system
  - System will be run in manual mode
    - System core programs started via terminal windows
    - Terminal windows display program status for new application debugging
    - Automated startup and sequencing is still installed ([DSG Note 2022-16](#)), but is disabled via Linux *systemd* service manager
  - Manual startup core program sequencing
    - Kafka Zookeeper (specific to NPS simulation)
    - Kafka Server (specific to NPS simulation)
    - EPICS NPS simulator softIOC startup and initialization
    - NPS Phoebus alarm server
    - Phoebus user interface
    - Monitoring of the three alarm system Kafka message streams (optional)
  - NPS detector signal simulator softIOC generates EPICS PVs
    - The softIOC generates 148 simulated environmental monitoring PVs
  - Phoebus alarm system monitors EPICS PVs
    - Alarm system reports on PVs that are in an EPICS alarm state
  - Operation and monitoring of user interfaces: softIOC, alarm acknowledgement, alarm tree, and alarm area panel



Phoebus Alarm Test System User Interfaces