## DSG-R&D Phoebus Meeting Minutes

# Date: May 26, 2023 Time: 02:00PM – 02:30PM

1.

Attendees: Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, and Marc McMullen

### 1. <u>Phoebus screen development for alarm system</u>

- Mary Ann Antonioli, Peter Bonneau, and Aaron Brown
  - Discussed top menu and PV status screen
    - The menu lists and links to the seven alarm test system screens
    - Shows sums of interlock status and latched faults for
      - Front and back crystal zone thermocouple temperatures
      - Detector frame
      - Crystal zone cooling circuit
      - Electronics zone
      - Hall environmental
      - Chiller coolant
    - Shows the sum of alarm test system EPICS PV status and latched faults
    - New alarm test system status signals will be added to the PV list

### 2. <u>PV save and restore for applications using Phoebus</u>

Peter Bonneau and Aaron Brown

- 1. Saving and restoring PV values is needed for reboot of IOCs
- 2. NPS hardware interlock system automatically restores trip thresholds upon reboot of cRIO
- 3. Need save and restore for alarm test system and NPS EPICS alarm levels
- 4. Discussed implementation of an interim solution for PV save and restore

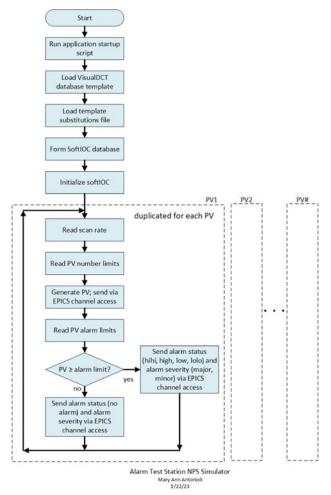
### 3. <u>Alarm test system PV simulator</u>

Peter Bonneau

- 1. Discussed development of an alarm test system PV simulator
  - Simulator produces all NPS detector signal PVs
  - PVs are generated via softIOC server and sent to clients via EPICS channel access
  - PV values are defined by user and can be randomly generated or fixed
  - Simulator will be used to develop and test Phoebus applications, including the alarm system
  - Test of VisualDCT thermocouple template for alarm test system
    - Upon startup, the VisualDCT template and a text substitution file forms an EPICS database that generates simulated NPS thermocouple signals

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ile Applications W	indow Help																		
	6 (B)																		
Hall-C-NP5 Alarm Area Panel		back CZ temps alarm	TALK .	front CZ I	temps alam	n test - Ha	il-C-NPS Ann	unciator											
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		1925			HEHE	HIN	HIGH	HIGH	LOW	LOW	LOLO	LOLO	Alarm	Alarm		range	Min T	Max T	
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			20	17.77	21.00	21.00	20.98	20.98	15.02	15.02	15.00	15.00	NO ALARM	NO ALARM	1 second *	8.04	15.03	20.97	
			25	15.43	21.00	21.00	20.96	20.98	15.02	15.02	15.00	15.00			1 second =	3.94	15.03	20.97	
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	t back 1 - MAJOR/HIHE AL		180	16.06	21.00	21.00	20.98	20.98	15.02	15.02	15.00	15.00	NO_ALARM	NO_ALARM	1 second *	5.94	15.03	20.97	
	L BACK 2 - HINDRAHOM		185	16.99	21.00	21.00	20.98	20.98	15.02	15.02	15.00	15.00	NO_ALARM	NO_ALARM	1 second *	5.94	15.03	20.97	
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Simulation of NPS Thermocouple EPICS Process Variables and Alarms



Alarm Test Station Signal Simulator Flowchart