

Alarm System

Purpose

- Alert people on shift about any problem
 - Alarm screen should always be on the monitor
 - Alarm annunciator should be running in the counting house
 - Volume for the computer running alarm handler/annunciator should always be up.
- Allow shift person to open screens that could help resolve the alarm condition
- Perform automated action if needed.
- There should be less than ~3 false alarms per hour in the controls
 - Alarm configuration needs to be continuously maintained
 - Limits need to be adjusted
 - Variables disabled if not needed

Required processes

- Java Messaging System message broker ActiveMQ to provide communication between different components of the alarm system.
 - On gluonjms machine
- MySQL database server with alarm system configuration database
 - On gluondb1 machine
- Alarm server(s) to collect information for configured PVs and groups from EPICS and send the information to the alarm screens, annunciator and the notifier.
 - On gluon30 machine
- Alarm notifier to send e-mails to people for certain alarms.
 - On gluon30 machine
- Alarm annunciator to announce the alarms in the controls room.
 - One a couple of desktops in the control room.
- Alarm screens in CSS.
 - One one of the desktops in the control room

Alarm Area Panel

- FDC
- FCAL
- DAQ
- MAGNETS
- BEAM
- GAS
- TOF
- Solenoid

Alarm Tree

Area: FDC

Area: FCAL

Area: DAQ

Area: MAGNETS

Area: BEAM

Area: GAS

Area: TOF

Area: Solenoid

- System: Cryogenics
 - System: Vacuum
 - System: Pressure
 - PV: SOL:i:DBox-PT_HS
 - PV: SOL:i:DBox-PT_NS
 - PV: SOL:i:DBox-PT_HT
 - PV: SOL:i:DB...
 - System: Mass_
 - System: Tempe
 - System: Liquid
 - System: Magnet
 - System: Interlock

Open Gryogenics GUI

Send Message to Yi

Send Message to George

Copy to clip-board

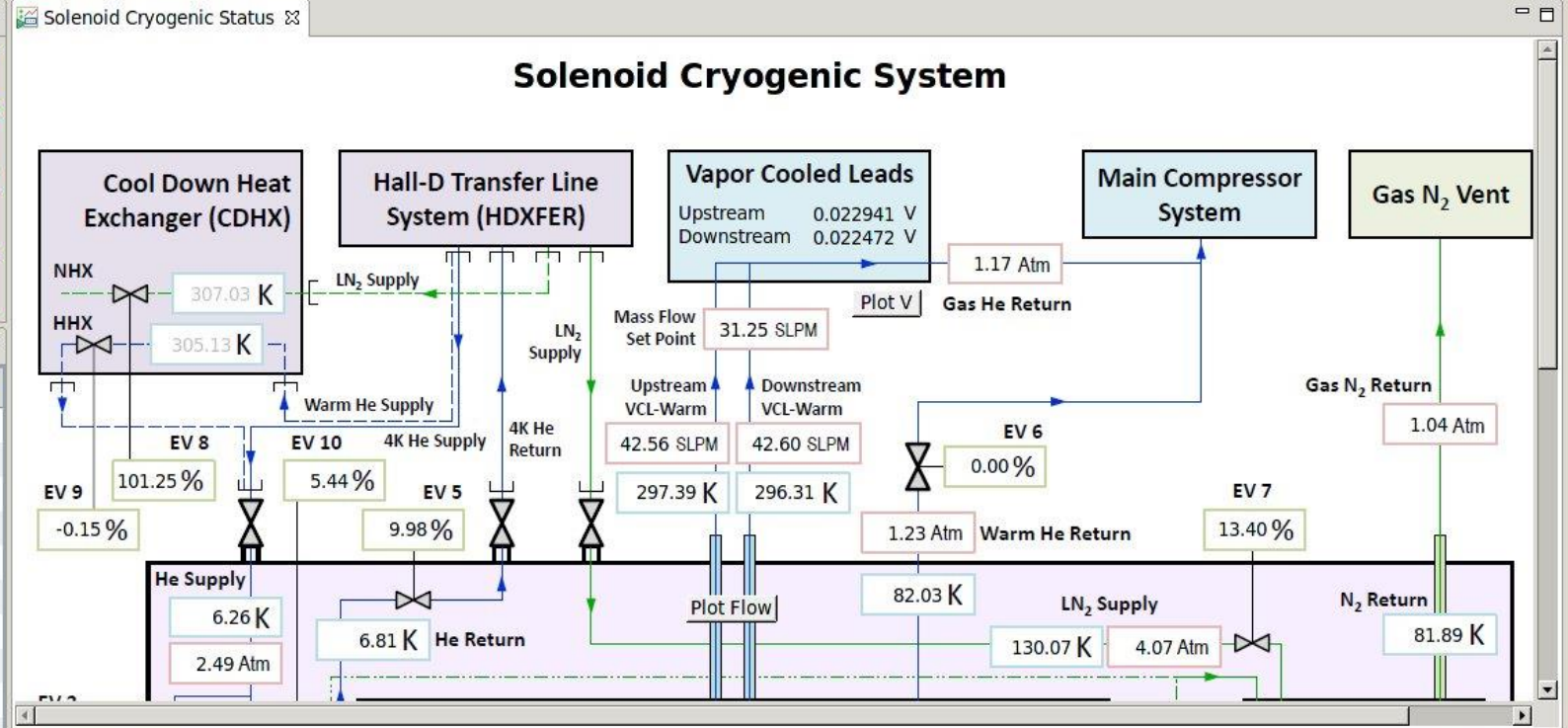
Configure Item

Rename Item

Duplicate PV

Move item

Remove selected Items



Alarm Table

Current Alarms (0)

PV	Description	Alarm Time	Current Seve	Current Stati	Alarm Sev	Alarm Status	Alarm Value

Acknowledged Alarms (0)

PV	Description	Alarm Time	Current Seve	Current Stati	Alarm Sev	Alarm Status	Alarm Value

Configuring the alarms

- Describe the alarm variable/group.
- Can enable/disable individual PVs
- Can (should) make the annunciator make audible alarm annunciation.
- Define a control screen to help resolve the alarm condition.
- Define people who need to be automatically notified when the severity changes.

The screenshot shows the 'aiaocalc_alarm_set' configuration window. The title bar reads 'aiaocalc_alarm_set'. The main content area is titled 'ALARM INFORMATION FOR DAQ:availableRAID'. It is divided into several sections:

- Present Values:** DAQ:availableRAID: 31; Alarm Severity (SEVR): NO ALARM; Alarm Severity (STAT): NO ALARM.
- Alarm Limits:** A table with columns for the limit name, its current value, and a 'Modify' button. The values are: HIHI: 100, HIGH: 80, LOW: 10, LOLO: 5.
- Alarm Severity:** A table with columns for the severity name, its current level, and a 'Modify' button. The levels are: HIHI (HHSV): MAJOR, HIGH (HSV): MINOR, LOW (LSV): MINOR, LOLO (LLSV): MAJOR.

The screenshot shows the 'hb_check' configuration window. The title bar reads 'Item: /HalID/MAGNETS/PSPEC/PSPECIOC:hb_check'. The main content area is divided into several sections:

- Description:** Pair Spectrometer magnet IOC heartbeat
- Alarm Delay [seconds]:** 2
- Alarm Count [within delay]:** 0
- Behavior:** Enabled Latch Annunciate
- Enabling Filter:** (empty)
- Guidance:** A table with columns for Title and Detail. One entry is: Title: What to do, Detail: Check if the the PS magnet IOC is alive.
- Displays:** A table with columns for Title and Command. One entry is: Title: IOC status screen, Command: (empty).
- Commands:** A table with columns for Title and Command. One entry is: Title: <Add>, Command: <Add>.
- Automated Actions:** A table with columns for Title, Detail, and Delay. One entry is: Title: <Add>, Detail: <Add>, Delay: <Add>.

At the bottom, there is a status bar: 'ID: 1131 Last configured: 2014/08/21 08:12:52'. At the very bottom, there are 'Cancel' and 'OK' buttons.

Status

- Working on the voltage channels
 - There are thousands of them
 - Scripts are in development (Hovanes)
- Solenoid alarms are populated
 - Need some refinement
- Need alarm by Tuesday for
 - Gas system
 - FCAL dark room
 - CDC temperature
 - BCAL temperatures
- Requests need to be sent to Mark Ito, CC-ed to me by the end of today.