RICH Issues and Troubleshooting

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Detector Support Group
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Air-Cooling Tank Pressure Interlock Trip

• On January 13, 2018 pressure in air-cooling system’s tank dropped below 60 psi, tripping the air pressure low limit interlock.

• Archived data supports that compressor was not able to provide ~950 slm flow, as set on valve panel.
  • Pressure was not oscillating, following on-off cycle of compressor.

• Pressure returned to normal behavior after flow decreased from 950 slm to 900 slm.
Airflow 1 Interlock Trip

• Airflow 1 increased to ~550 slm during time of pressure issues, tripping the high limit interlock for Airflow 1.
  • High interlock limit was set to 550 slm.
• To make airflow more stable and not affected by compressor’s cycle, air panel’s regulator was decreased from (~60 psi) to ~45 psi.
• Since regulator change, airflow is still affected by compressor’s cycle.
Before Regulator Change

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<tbody>
<tr>
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<td>Airflow 2</td>
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<td>403.18</td>
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After Regulator Change

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EP cRIO Interlock Limit Reset

• Issue noted in logbook: [https://logbooks.jlab.org/entry/3514481](https://logbooks.jlab.org/entry/3514481)
• Cause of limit reset was not reboot of cRIO.
  • PV indicating hours since cRIO’s last reboot was at ~160 hours.
• Noted soft IOC was rebooted at same time limits were reset.
• Discussed issue and solution with Nathan Baltzell.
  • Nathan found IOC configuration error that caused soft IOC to not save parameters for EP cRIO PVs.
  • Error fixed and tested successfully.
Nitrogen Panel Upgrade

• Rotameter and flow meter on hand for upgrade to nitrogen panel.

• Upgrade would allow increased flow capacity.
  • ~60 slm per line to RICH for total flow of ~120 slm.

• Increased flow would only be used for purge.
  • Allows ~34 volume exchanges per day.

• Email sent on January 10, 2018 to Bob Miller (RICH gas system owner) to notify of parts on hand.

• Waiting for Bob Miller to assign a Design Authority to approve update.