

Notes on second CAM rolling review meeting: 12Jan17

Present: IM, PO, TH, BM, (AO), DR, MC, AK, PH, PMH, KL, CW, PF

1. Introduction:

◦ This meeting will follow up on the actions and tasks initiated in the last meeting. In addition, the agenda provides for a discussion of the recent observation of “stale” “RAMP ENABLE” and “SET VALUES”.

2. Notes and actions:

- Notes on previous meeting were accepted.
- Status of actions:
 - **PMH:** Provide confirmation of status of MICE state machine and which state machines it oversees:
 - **Done.** “MICEstates” looks at all state machines. Thorough specification of dependencies is to be presented. Code not yet complete, PMH unable to give an anticipated completion date. Some felt that the MICEstates state machine was not needed at the moment since “divergent ramp functionality” had already been implemented in the power-supply control code.
 - Presently ssh-lockout procedure is planned to be implemented through a “button click” on the GUI associated with the MICEstates state machine. It was noted that regardless of the GUI, a bare-bones script to implement the ssh-lockout exists and can be rolled out any time
 - We agreed to revisit the discussion of the MICEstates state machine under the agenda item dealing with the CAM task list.
 - **AK:** Define a plan by which the version of the DL code active in a particular release of the CAM code is stored alongside the MICE-specific code.
 - **Stands.**
 - **PH:** search code for “OUT” statements and document the PVs and modules that write the values to the PVs.
 - **Stands.**
 - **PMH:** initiate documentation of PVs by identifying all command PVs and documenting their values and actions.
 - **Stands. Action passed to AK.**
 - Initial list has been made by AK by analysing the code that generates the various GUIs. It was mentioned that there are more PVs than those just visible via GUIs, and hence a more inclusive list needs to be made - also see item above.

- **PMH:** identify code/modules which access the command PVs
 - **Deleted** (Subsumed in the action on PH above)
- **CW:** organise that power supplies be shorted so that tests can be made.
 - **Done.**
- **AO:** continue to record and investigate error rates, in particular of the AMI420s.
 - **Done.**
 - The number of PV scanned had been reduced. This reduced the error rate significantly. After a reboot of the IOCs the error rate increased. PO reported that the traffic had been reduced to 2 or 3 commands per second. Errors that were generated we trapped.
 - We discussed whether the error rate was commensurate with the RS232 protocol. Opinions were divided, so it was **agreed** that **AO/PO** would write up the communications and error rates in a short note to set a baseline and to allow all to consider whether the "protocol-limit" had been reached.
 - We discussed the need for a follow-up test. We **agreed** that this test would be specified and then carried out by **AK, PMH, AO and PO.**
 - **The follow up to this action is split into two:**
 - **AO, PO:** document the present communication and error rates.
 - **AK/MPH/AO/PO:** Define and document the next test to be carried out on the serial communications. Then carry it out.
- **AO:** consider removing the "status" command for the AMI420s.
 - **Done.**
- **AO:** propose dates for visits to RAL to investigate communications (this so that we can prepare for his visit)
 - **Stands.**
- **BM:** Send information on network "sniffer" that looks for the setting of values (believe to have been developed at the Canadian Light Source)
 - **Done.** Link to relevant code had been circulated. PF had written to Gillian Black (Canadian Light Source). She has agreed to make a package and send it to PF. PF will take this forward.
- **DR:** Generate list of outstanding ALH issues.
 - **Stands.** ELog review has been done. Now need to check paper log and MOM book.
- **MC:** continue to investigate ALH issues when decay solenoid issues are addressed.
 - **Stands.**

- **PF:** Implement backup of DL code
 - **Done.** Automated, daily backups are now done.
- **PF:** Schedule network isolation test
 - **Stands.** Have agreed to do the isolation test as part of the expert-led start-up.

3. Investigation of stale ramp enable and set values: PMH, AK, PO

- Ramp enable and set-values were set because PMH was testing.
- We discussed the possible consequences of stale values. The last value stored in a PV and written “OUT” remain in the relevant register. In the case of the “SET VALUE”, in the event that a “RAMP” arrives, the PSU will ramp to the stale SET VALUE.
- We **agreed** that action must be taken to mitigate the possible effect of such stale values. We **agreed** that the code would be modified to enter a “:SET VALUE” of 0A every time the contractors are opened or closed (**AK** will implement). For cases in which the IOC has to be rebooted, the PSUs affected will be run down to zero prior to the reboot.

4. Investigation of serial communications: AO

- Status of the investigation was discussed under the relevant action item above.

5. Status of C&M tasks PMH

- In the recent attempt to run up the FC in flip mode, the Hall probe readout had failed. It was agreed that **CW** would contact M. Uchida to negotiate a more robust solution.
- The impact on data taking and dependencies in Run Control and data processing were discussed.
- It was **agreed** that the **online code** would be **frozen** on the **23Jan17** in conjunction with the C&M test for the week of the 23rd.

6. Code + PV documentation: PMH, AO

- In view of the fact that the meeting had only a short time left to run and that little progress had been made on this item it was **agreed** to revisit this item in the next rolling-review meeting.

7. PS hardware limits

- The need to set current limits in hardware on as many of the power supplies as possible was **agreed**. It was **agreed** that **MC** would review the various power supplies and set appropriate hardware limits.

8. Next steps for review

- In view of the time remaining for the meeting, it was agreed to postpone this item to the next meeting.

9. Date of next meeting

- **DR** will define the date of the next meeting through a Doodle poll. The target date will be in the week of the 23Jan16, after the expert-led start-up.

10. AOB

- None.

Summary of actions:

1. **AK:** Define a plan by which the version of the DL code active in a particular release of the CAM code is stored alongside the MICE-specific code.
2. **PH:** search code for “OUT” statements and document the PVs and modules that write the values to the PVs.
3. **AK:** initiate documentation of PVs by identifying all command PVs and documenting their values and actions.
4. **AO, PO:** document the present serial communication rates and the error rates.
5. **AK/MPH/AO/PO:** Define and document the next test to be carried out on the serial communications. Then carry it out.
6. **AO:** propose dates for visits to RAL to investigate communications (this so that we can prepare for his visit)
7. **DR:** Generate list of outstanding ALH issues.
8. **MC:** continue to investigate ALH issues when decay solenoid issues are addressed.
9. **PF:** Schedule network isolation test.
10. **AK:** Implement the setting of the “SET CURRENT” associated with each breaker to zero every time the breaker is opened or closed.
11. **CW:** Contact M. Uchida to negotiate a more robust solution to the Hall probe readout issues.
12. **AK:** Implement a CAM code freeze on the 23Jan17 as part of a general freeze of the online code on this date.

13. **MC:** review and implement hardware current limits on as many power supplies as possible.
14. **DR:** Doodle for the next rolling-review meeting for the week of the 23Jan17 when the expert-led start-up is complete.