

# Control Room Procedures

Need to review and update the Control Room Procedures followed by Shift Captains

## Current Standard Procedures:

([http://www-d0.fnal.gov/runcoor/runplans/control\\_room.html](http://www-d0.fnal.gov/runcoor/runplans/control_room.html))

The default running condition for a store - unless otherwise specified and approved by the Run Coordinator - is to run with all available readout crates in the global run with **Recording On**. Please review the D0 Run Plan for current plans and situations. Shift Captains are responsible for enforcing the Run Plan and resolving conflicts. Work that influences or impacts the DAQ **between stores** must be scheduled in advance and approved by the Run Coordinator.

See the sections on **CFT Operations & L1CTT Inputs to L1 Muon & Combined Test Stand Operations & STT Operations** for special instructions.

## CFT Operations (as of July 23rd):

To assist in the commissioning the CFT+PS, the following plan is in effect until further notice. When there is no colliding beam, the CFT crates are under the control of the CFT shifter.

During colliding beam: The CFT shifter will communicate with the Shift Captain and DAQ shifter whether or not the CFT crates (0x50,0x51,0x52,0x53) should be included in the primary global run. Removal of CFT crates from the global run for reasons other than fixing immediate hardware or software problems must be approved by Fred Borcharding or Andrew Alton. Unless explicitly approved, the default condition is to leave the crates in the global run (running in suppressed mode).

The CFT crate(s) can be excluded from the global run and CFT-only **sDAQ** runs may be run independently.

If independent CFT **pDAQ** runs or unsuppressed CFT running in the global runs are requested, the Run Coordinator must approve the run. This does **not** apply to sDAQ runs.

## CFT Shifter On-Call (as of July 23rd):

**Please note: If one of the CFT+PS crates exhibits 100% L1 FEB which cannot be cleared by an SCL init, then either summon the on-call Shifter to the control room (consultation by phone is not sufficient) to address the issue(s), or, if necessary, exclude the offending crate(s) from the global run under non-critical conditions (no shot setup for hours).**

During extended periods without colliding beams, the Shift Captain might explore the option of releasing the CFT+PS shifter to "on call" status. If you are the CFT+PS shifter and the captain offers you this option, you may exercise this on-call option under the following conditions:

1. There are no outstanding special instructions regarding tasks which should be accomplished by the CFT+PS shifter.
2. Before leaving the control room you must perform the following operations:
  1. Perform a standard round of checklist checks to insure that the CFT+PS system is in good condition. If it is not, then clearly document the problems observed and consult with an expert as necessary.
  2. Verify that there are no unaddressed major CFT+PS alarms.
  3. Check that all CFT+PS crates are capable of being readout in the zero\_bias run (unless specifically removed from running by experts).
  4. Document the CFT+PS status in the logbook.
  5. Provide shift Captain with phone number where you could be reached if CFT+PS problems arise during the remainder of your shift, and post that number at the CFT+PS console.
  6. Be sure to contact the next CFT+PS shifter at the appropriate shift transition time to address any questions the next shifter may have.

If you are coming on shift following an on-call shift, be sure to carefully review the status of the system to insure that it is in proper operating condition.

## CTT Operations (as of July 23rd):

If L1CTT crate x13 goes FEB, then the shifters will attempt a few well-defined steps detailed on the CTT Instructions web page. If the crate fails to behave after these steps have been taken (including paging the CTT expert), then it should be removed from the global run and left out until the experts have a chance to try to get it going again between stores.

## L1CTT Inputs to L1Muon (as of July 23rd):

If for some reason CTT experts are unable to put the trigger into a configuration to provide tracks to L1 Muon, then the CFT+PS shifter and the muon shifter must be clearly informed. Under those circumstances, the muon shifter must be asked to disable the CTT inputs to L1 Muon.

To help insure that the CFT inputs will not generate problems for the L1 Muon system, the following additional guidelines should be carefully followed. After a (quick or full) download of crate x50 or x52 is performed during a store:

- Request an SCL init (to be issued by the DAQ shifter)
- Verify the synch gap signal is correct using the DFEA Monitor
- Inform the muon shifter of the download and request that appropriate checks of muon triggers be performed.

More details for CFT+PS Shifters on Troubleshooting & Preparation for Store

For the Muon Shifter, a problem with the CFT inputs might present itself in the following ways:

- AND/OR terms 193 and 194 (the "beginning of turn" triggers) in the DAQ Monitor have values other than 47712 Hz.
- The L1 Muon crates (0x16, 0x17, 0x18) go "Out of Synch" and do not recover after the DAQ Shifter issues an SCL init.
- The L3 input rate drops suddenly and stays low.

If the Muon Shifter sees a problem, then:

- Check with the CFT+PS Shifter to see if there is a CFT-related problem. If so, let the CFT+PS Shifter attempt to recover and, after the DAQ Shifter issues an SCL init, check the above conditions again.
- If the problem persists, request that the run be paused, and then disable the CFT inputs using the GUI. An illustrated guide is in the L1 Muon Documentation binder, or click on [Disabling CFT Inputs to L1 Muon](#).
- After disabling inputs, ask the DAQ Shifter to issue an SCL init. The AND/OR terms 192 and 193 should both be 47712 Hz.

If so, request that the run be resumed. If not, page the L1 Muon expert! In the case where something goes wrong, the system is returned to the configuration with no CFT inputs enabled to L1 Muon, and the L1 Muon expert will study the problem between stores.