

# TGC DCS Recovery Procedures

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# Step 1 – 48 V

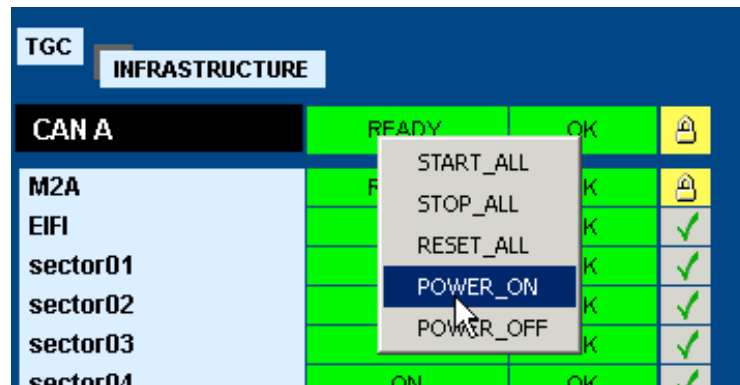
- Infrastructure FSM
  - Go to 48V branch turn ON 48V
- If voltages don't go up need to “clear alarm” from CAEN crate
  - Call DCS expert
- If 48V FSM is in UNKNOWN state “Restart” A3 or C3 FSM
  - Call DCS expert

# Step 2 - LV

- Go to LV FSM under TGC-A or TGC-C
  - Turn on LV
  - TGC A / C panel: See state/status of LV for each sector
  - If a sector is late to go up click on it to go to its FSM branch
  - If lowest level says “UNPLUGGED” indication of board failure
- If FSM in UNKNOWN state “Restart” FSM
  - Call DCS expert

# Step 3 – CAN PSU

- Turn on CAN PSU for Side A / C



- **Important:**
  - Currently two modules in side A and one in side C are not monitored correctly .
  - Enable them before powering on and then disable them again.

# Step 4 – Thresholds

- When LV is powered thresholds should go into “TRANSITION”
  - After a while all thresholds time stamps should be up to date
- Thresholds FSM should become READY
  - TGC A / C panel: See state/status of Thresholds for each sector
- If all thresholds fail to update
  - Go to DCS FSM branch and restart threads (which)

# Step 4 – Thresholds (cont)

- If everything looks fine
  - REFRESH channels to trigger diagnostic
- If a sector is “Not Responding” or “Inaccurate”
  - Go to that sector and check time stamps
  - If time stamp is more than a couple of minutes old
    - Refresh channels for that channel
    - If time stamp still doesn't update – Power Cycle DCS-ELMB for that sector wheel
    - If time stamp STILL doesn't update – Call TGC expert and ask for DCS reset for corresponding side

# Power Cycle DCS-ELMB LV

- Go to LV sector wheel corresponding to the problematic ELMB / Thresholds
  - Conveniently reachable from TGC A/C panel
- Turn OFF and then ON DCS-ELMB
- Thresholds in this sector wheel will go into “TRANSITION”
  - Check that time stamps are updating every few seconds

# Step 5 – DCS branch

- Takes time but if Thresholds are updating fine it means that the DCS is working fine
- If after a long time Thresholds are ready but DCS branch is STILL not ready
  - DCS is working fine, no need to worry
  - But... Call DCS expert



# Step 6 - HV

- HV should be powered once detector expert or muon run coordinator gives green light
- If trips with counter below 4 and after relaxation time are not recovered
  - Restart thread and trigger recovery by turning channel on