ShiftMan

The E852 Shift Manual of Tasks

In order to ensure the smooth operation of various sub-systems, a number of tasks are required to be carried out regularly on every shift. These include monitoring of the hardware, as well as taking appropriate action to rectify any problems, if necessary and possible.

- Solving of problems should be attempted if, and only if, authorized by the group responsible for the particular sub-system concerned.
- Before an attempt to make a major change is made, the shift - person should consult the the relevant sectioni(s) in the E852 Run Documentation (E852 R-D) folder.
  If not sure, or if the problem is more complex, please contact the responsible group members.
- In any case, please follow the instructions provided for each sub-system in the above folder.

Tasks List

The following tasks are to be carried out by the shift - person **AT LEAST ONCE** per shift.

- **Check-List:** Complete the hardware check list by entering the voltage settings from the power supply system, which, unless other wise stated, is situated in the fast - trailer.
- **CsI:** Using the "csidisplay" program (see E852 R-D) look at the histogram number 5000, as well as other CsI histograms, such as 1-18, etc, using the "scan" option. Then compare these with the reference histogram provided in the "CsI" folder (on the shelf). If there are any major discrepancies the new histogram should be printed and filed in the folder. In such a case, the new pedestal file should NOT be downloaded, and a CsI group member should be contacted.
- **TCYL:** Using the "Hist" program, look at the TDC and ADC wire - map histograms (see E852 R-D).
- **Drift Chambers:** Run the "drift" program and check the wire maps and the drift time distributions. This program can also be used to monitor the TDX4 wire maps. Faulty wires come under four categories, which are expected to enable prompt decisions to be made as to whether a faulty module should be removed. These are:
  (a) "hot" wires in which noise is equal to or higher than the signal peak,
  (b) noisy wires in which noise is lower than the signal peak, but still significant,
  (c) "dead" wires, and
  (d) inefficient wires. These are not quite dead but perform inefficiently.
  In case of observing any of these effects, the module, plane number, wire number and the fault (one of the above categories) should be recorded in the log book.
- **TPX1,2,3:** Monitor with the "event" program for efficiency and consistency with the trigger. The "beamtune" package may be used to monitor the wire map distributions of these chambers.

- **TDX4:** Records of any tripping of this chamber should be made in the log book. The wire maps should be checked using "drift" (see TCYL, above).

- **Fan IN/OUT:** These 5 modules, located in rack 6 in the fast trailer, for the CPVs and DEA should be checked at least once, and preferably more often, per shift. The settings should be at 0.000 V. Any departure from this value is to be noted and logged. If the discrepancy is > 20 mV, it should be re-adjusted to zero using a screw-driver.

- **LGD:** The procedure for the UPS alarm status is as follows:
  1) Check the screen of the VT100 in the hut once per hour for Messages.
  2) Write all alarms and error messages in the log book with the time it occurred.
  3) Contact Rob, Jeff or Eric immediately if a message, such as one of the following, is printed:
  SHUTDOWN IMPENDING!
  TRIAC FAULT!
  LOW BATTERY VOLTAGE! or
  any other message indicating a problem.
  In case of an AC line failure, which sets off the alarm in the control room, follow the procedure below:
  a) Wait for 5 minutes
  b) If the alarm goes away and does not return within 10 minutes then all is well.
  c) However, if the alarm continues, or returns within the 10 minute window then Call one of the above people immediately.
  d) If one of the above people has not been reached within 20 minutes then consult the LGD section of the documentation folder.
  e) If all the equipment in the hut, including the lights, are off Do NOT try to bring the power back on. This indicates a massive UPS failure, or a security failure. Call one of the people above.

- **"event" Display:** This program should be used on a regular basis in order to check the veracity of the data being taken, and the trigger in use at any one time. Most of the detector sub-systems can be viewed, and therefore, should be monitored using this program.

- **"beamtune":** This program should be used on a regular basis to monitor such distributions as the beam chamber wire maps, momentum, TPX1,2,3, etc.

- **Dibbuk:** The smooth running of this system should be checked. Any breakdown should be recorded in the log book and reported to the relevant group. The check is carried out by monitoring the momentum distribution of the "Beam Tune" in DAQcontrol. This histogram should also be checked for the correct distribution and peak value.

- **"scalerview":** This program enables the monitoring of the scalers with various options. Run - Documentation pending!
  In addition, the scalers on rack 8, particularly those of "Pre-Trigger", "S Counters:, "SSP0" "ATEL" and "ASEC", should be regularly and frequently monitored to ensure that they make sense. The ratio "ATEL/ASEC" should be $\approx \frac{15}{1}$.

- **"magwatch":** Use for monitoring the MPS magnetic field. Run - Documentation pending!

Also the current setting, as indicated by the scaler on rack 3, should be maintained nominally at 0.4937 V (Hall Probe) for the magnet ON.

- **Beam:** The beam shape and position at the A1 target should be monitored by regularly observing it on the TV screen (press the red button on the TV control panel. It, as indicated by the heavy dot in the following figure, should be centered on the vertical axis between the horizontal axis and the first negative graduation. The beam extraction intensity and other information may be monitored on an alternative TV channel (press the yellow button on the TV control panel).

```
        +

        +

————-+————-
        •
        +

        +
```

N. B. Please note that in case of any problems, the relevant groups should be informed. There is a list of telephone numbers posted on the notice-board.