

Operational procedure for validation of machine protection functionality for the collimator temperature survey.

1) Open PVSS application for collimators from the LHCOP console manager.

LHC Control -> LHC Equipment Control -> Collimators -> PVSSII Collimator

2) Log on as "expert" by clicking on the yellow key on the top-right corner

(user: "expert"; no password for the moment)

3) Select the collimator temperature sensor per IP:

On top-right corner: "Device Ov." -> "Device Tree Ov."

Then, on the menu on the top-left corner check the "Domain:*" field; clic on the little arrow next to the domain and select the IP. Then validate selection with the green check symbol.

Select the folder that appears -> all the temperature sensors of the corresponding IP will appear.

4) Force temperature reading above the threshold value

Note that the procedure to be repeated for each temperature sensor of type "_TTLU", "_TTLD", "_TTRU", "_TTRD", "_TTW" (4 or 5 per collimators)

- Double clic on the temperature value
- In the panel that open, select "Force Mode" and then "Set Value"
This forces the temperature reading to the desired value.
- Select a value ABOVE the threshold limit "HH".

5) Verify the change of state of the "Collimator ENV-Parameter" BIC input (Channel 9)

- Open the BIS software
- Select the "OVERVIEW" panel for the IP/Beam corresponding to the IP that is being validated

- Verify that the COLL#ENV channel (Channel 9) turns FALSE

6) Verify the alarm status (NOT YET OPERATIONAL)

- Two lines should appear on LASER for the corresponding sensor whose reading has been forced (warnings and errors)

7) Restore normal conditions:

- In the panel used to force the temperature reading, select "Select" and then "Auto Mode".
- Verify that the COLL#ENV input of the BIC turns TRUE (green) again.
- Acknowledge the alarms in the PVSS application with "Ack. Alarm"
-> the temperature reading should stop blinking and turn green from red.

Comments:

One should report in the "Comments" column of the provided Excel table:

- If the reading of some sensors was already forced before starting the procedure
- False temperature readings (>3000C indicate a bad sensor state)
- Various warnings and anomalies encountered
- Failures of any of the procedures described above