

# Instructions for switching from **science mode** to **commissioning mode** (turning up the dust control system so that the PSL will stay clean when inhabited).

To go the other way, see the other side.

**Note: this is now a two-step process – you will turn on the Laser Room fans from the Ante Room. This change was made to avoid temperature spikes from the fans being turned on before the AC.**

- 0) Find the “Unitronics” box, the box that controls the PSL air systems, on the outside wall of the PSL enclosure right beside the table with the computer on it. You will be finding a similar “Unitronics” box in the Ante Room later, directly across from the air shower.
- 1) Navigate to the “Facility Control” screen, the screen with the map of the PSL enclosure. If the current screen does not show a map of the laser room and the Ante Room, press the up arrow in the upper right hand corner until you see the map or until the arrow disappears (in which case you reached the top screen and will want to press “Facility Control” to get to the page with the map).
- 2) Turn on the fans in the Ante Room.
  - a. Press “Ante Room”
  - b. Press “Set speeds” in the lower left of the resulting screen.
  - c. Press “Run”
  - d. Press “update all fans” which will appear after pressing “Run”. This will bring up a map which will show you the start up of all of the fans. You will hear these fans come on.
- 3) Turn the makeup air up to 100%.
  - a. Press the up arrow at the upper right to navigate back to the main map screen as in the first instruction.
  - b. Press “Make-up Air”.
  - c. Press “Set speeds” at the lower left of the resulting screen.
  - d. Press the blue button with the fan percentage (e.g. 100%) under “Run:” (not the “Run” button).
  - e. Enter “100” by pressing the number buttons – do this even if the number is already 100. Hit the big return arrow on the right side of the keyboard to enter the number.
  - g. Press “update all fans” on the resulting screen.
- 4) Turn on the lights in the Ante Room.
  - a. Toggle the two light switches in the upper set on the little wall just to the left of the Unitronics control box. You can see the lights come on through the screen at the base of the Ante Room walls.
- 5) Enter the Ante Room.
  - a. Enter the Ante Room at your convenience - there is no rush, everything you have done so far should not affect Laser Room temperature. When you are ready to enter the Laser Room, find the “Unitronics” box in the Ante Room directly across from the air shower and follow instructions on the attached sheet. IF YOU ARE JUST ENTERING THE ANTE ROOM ONLY, YOU ARE DONE, no need to do anything at the Ante Room “Unitronics” box. When leaving after entering the Ante Room ONLY, follow the subset of instructions on the other side of this sheet that have a star beside the number.

# Instructions for switching from commissioning mode to science mode (turning down the dust control system to reduce motion of the beam).

To go the other way, see the other side.

**0) Shut down anything that was turned on** inside the Laser Room (except the air conditioning, which will be shut down from outside), and leave. In particular, make sure the video screens were shut down. Heat loads will change science mode operating temperature and beam alignment.

## **1) Shut down the laser room fans.**

- a. Navigate to the “Facility Control” screen using the up arrow in the upper right (detailed in “1”, other side).
- b. Press “Laser Room” on the “Facility control” screen
- c. Press “Set speeds” in the lower left of the resulting screen with the detailed map.
- d. Press “Stop”
- e. Press “update all fans”.

## **2\*) Shut down the ante room fans.**

- a. Navigate to the “Facility Control” screen using the up arrow in the upper right.
- b. Press “Ante Room” on the “Facility control” screen, the screen with the map of both PSL rooms.
- c. Press “Set speeds” in the lower left of the detailed “Ante Room” screen.
- d. Press “Stop” on the resulting screen.
- e. Press “update all fans”.

## **3\*) Turn off the Ante Room lights.**

- a. Toggle both switches in the upper set to the left of the “Unitronics” box. Check that the lights are out by looking for light at the base of the Ante Room walls.

## **4\*) Turn the make-up air down to 20%.**

- a. Press “Make-up air”, after navigating back to the “Facility control” screen
- b. Press “Set speeds” in the lower left of the resulting screen.
- c. Press the blue fan percentage button (says, e.g., 20%) under “Run:” (not the “Run” button).
- d. Enter in “20” on the resulting screen even if the number at the top already reads “20”.
- e. Press the big enter arrow.
- f. Press “Stop” We have to stop the fan for it to change from 100% to 20%. This bug doesn’t apply when going the other way, from 20% to 100%.
- g. Press “update all fans”.
- h. Press “Set speed” in the lower left
- i. Press “Run” on the resulting screen
- j. Press “update all fans”.

## **5) Shut down the 2 air conditioners.**

- a. Press “A/C units” after navigating to the “Facility control” screen
- b. Press the North AC button.
- c. Press “Running”, wait until it reads “Stopped”
- d. Press South AC button, after navigating up one screen using the up arrow in the upper right.
- e. Press “Running” wait until it reads “Stopped”.
- f. As a courtesy, navigate back to the “Facility control” screen using the up arrow in the upper right.

DONE!

\* Indicates instructions for switching back to science mode if the instruction list in the Ante Room was not followed (e.g. if the Ante Room was entered but not the Laser Room).

## **Continued instructions for switching from science mode to commissioning mode (turning up the dust control system so that the PSL will stay clean when inhabited).**

**To go the other way, see the other side (you will not need to use the Ante Room “Unitronics” box).**

**6) Find the “Unitronics” box and navigate to the “Facility Control” screen**, the screen with the map of the PSL enclosure. If the current screen does not show a map of the laser room and the anteroom, press the up arrow in the upper right hand corner until you see the map or until the arrow disappears (in which case you reached the top screen and will want to press “Facility Control” to get to the page with the map).

### **7) Prepare the 2 air conditioners.**

- a. Press “A/C units”.
- b. Press the North AC button.
- c. Press “Stopped” to toggle the AC on. Wait until it says “Running”.
- d. Press the arrow at the upper right to go back up one page.
- e. Press the South AC button.
- f. Press “Stopped” to toggle the AC on. Wait until it says “Running”.

### **8) Turn on the fans in the Laser Room.**

- a. Navigate back to the “Facility Control” screen using the up arrow in the upper right.
- b. Press “Laser Room”.
- c. Press “Set speeds” in the lower left of the resulting screen.
- d. Press “Run”.
- e. Press “update all fans” which will appear only after pressing “Run”. This will bring up a map which will show you the start up of all of the fans. There has been one report that one time the fans didn't really start even though they turned green. So check that the pressure gauge to the left of the control box reads greater than 0.15.

### **9) Without delay, enter the laser room, turn on the lights and AC**

- a. Toggle the light switches just to the left of the door, inside the Laser Room.
- b. Turn on the AC. There are two typical-looking thermostats on the walls of the room with the PSL table, each has this instruction “9” posted below it. Start with the one right near the light switch. On each of these controllers is an on/off switch with the circle bar symbol; press this switch twice, once to get out of standby and the second time to turn it back on. A screen should appear with the temperature settings. No adjustment is needed. If you forget this step the room will overheat dramatically and the beam will misalign.

**END. Note: Leave the air conditioning on when you leave (don't turn off the thermostats in the Laser Room) because the AC will be shut off from outside. But don't forget to shut down Laser Room lights and video screens when you leave to reduce the heat load.**

**Instructions for switching from commissioning mode to science mode (turning down the dust control system to reduce motion of the beam).**

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**1) Shut down anything that was turned on** inside the Laser Room (except the air conditioning and fans, which will be shut down from outside). In particular, make sure the lights and video screens were shut down. Heat loads will change science mode operating temperature and beam alignment.

**2) Exit the Ante Room and follow the instructions by the “Unitronics” box outside the PSL.**

## Leaving?

**Turn off video screens, Laser Room lights etc.**

## Switching to commissioning mode?

**Don't forget to turn on the air conditioners!**

### **9) Without delay, enter the laser room, turn on the lights and AC**

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