

Instrument Station (Hutch) Pneumatic Door Controls and PSS

The following applies to all hutches with pneumatically operated doors, regardless of which version of PSS is installed:

- One or more manual doors may be present that do not use pneumatics.
- Outside each hutch is a control panel with electric switches for each pneumatic door. **These switches are to be used to open or close the pneumatic doors for all routine operations.** The electric switches on these panels interface with PSS PLC(s).
- One must push and hold the close switch on the external control panel in order for a pneumatic door to fully close. The PSS PLC software requires this; it is not an inherent feature of the switch or door closing pneumatics.
- One may briefly push an open switch on the external control panel in order to open a pneumatic door.
- Inside each hutch are one or more Emergency Stop buttons that interfaces with PSS. Depressing the Emergency Stop button will latch it in place and
 - Prohibit a search from completing in the PSS logic,
 - Remove any enables to prohibit all beamline shutters from opening to permit a hutch to receive x rays if shutters are closed, and
 - Trip the storage ring electron beam if the hutch is receiving x rays.
- Inside each hutch is a pneumatically operated pushbutton box for each pneumatic door. The pushbutton box should have a door automatic open button and a door disable button to permit manual operation of the door. This button may have a cover over it. With the exception of the 27 ID and 35 ID beamline hutches, the door automatic open buttons are pneumatic switches that must be pushed and held momentarily to ensure the doors open. The manual door open buttons also are pneumatic switches that latch when to ensure air pressure is vented to permit the doors to be manually opened. **These pneumatic switches are for emergency egress use only and are not to be used for routine operation.**
- Outside each hutch and high on an external wall is an enclosure that contains the door's pneumatic controls that is labeled "for use by authorized personnel only." This box contains a matching set of emergency egress pneumatic switches for the same pneumatic door. **These pneumatic switches are for emergency egress use only when the normally used control panels are inoperative and are not to be used for routine operation.**

In addition to the above, **depressing the Emergency Stop inside hutches for beamlines which have the PSS Generation 1 Upgrade or PSS Generation 3 systems installed will open the pneumatic doors if the PSS search has been fully completed.** If a search has not been started or has not been completed, any closed pneumatic doors will not open.



Example of a Typical Pneumatic Door Control Box Inside an Instrument Station

Note that details can vary between the various instrument stations.

The most likely variance is not having a cover over the Manual Open button.