

Radon Hut Shift Manual

updated May 24, 2005, [H.G.Berns](#)

In the summer 2002, the radon hut underwent a major reconstruction and upgrade ([photos](#)). A new 'main air blower' was installed with approx. 5 times more air flow capacity of the original 'service blower' (now 'spare blower #1').



new radon hut setup (Sep. 2002)

Currently, the system is operating at full capacity (approx. 50 cubic meter per minute) at all times, 24 hours/day, 7 days/week, etc. We would like to keep the blower and the rest of the system running smoothly and with as few interruptions as possible, so we are asking SK shift people to check the system at least once per day:

Daily radon hut system checks ([shift tasks](#))

1. **Please make sure that the blower still runs.**

In other words, do you hear the motor inside the blower enclosure running (loud)?

2. **Check both oil windows of the main blower.**

The oil windows are located behind the right side of the large enclosure of the main blower (on left side of radon hut main room when you open the main door). Two holes were drilled in the side wall of the enclosure so you can look directly into the oil windows without opening up the enclosure.



left oil window



right oil window

The oil levels should be at approx. 1/4 to 1/2 at both windows. The oil is of amber color, sometimes appearing slightly milky due to tiny air bubbles generated by the motor rotations.

If one of the windows (or both) show only oil below 1/4 level or even no oil (dry), then please contact an expert immediately (see below)!



side panel of the main blower

3. **Check if there is an oil leak.**

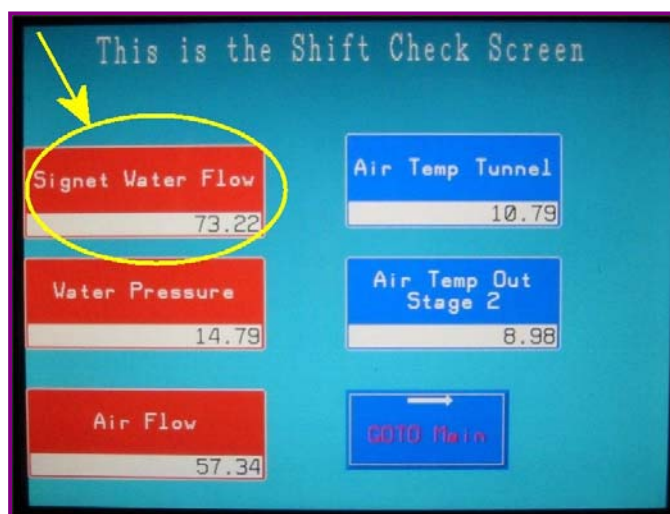
Please check the floor near the main air blower for oil leaks. The floor should remain dry at all times. If you see oil assembling on the floor, please contact an expert immediately (see below).

4. **Check the "Signet water flow" value on the control panel display.**

The flow value should be between 60 - 80 GPM (gallon per minute). If the water flow is far below 60 GPM or even stopped, please contact an expert as soon as possible.



control panel touchscreen display



shift check screen

Note: Please leave the display set to the "Shift Check Screen". If you see another screen displayed, then push the yellow "Shift Check" button provided on the other screens.

Daily shift task in the mine control room

- **Check air duct outlets in SK control room and/or SK dome.**

After entering the SK control room, please check if there is airflow coming out of the supply duct outlets on the ceiling. Thin napkin strips are taped on top of each air duct outlet as simple airflow indicators. Do they move up with the airflow? Then everything is fine.



airduct outlet in SK mine control room



airduct outlet with napkin strip as flow indicator

Also, there is a big air duct outlet at the entrance of the SK dome right above where the access hallway ends. If the napkins are not moving, then the system is apparently off. Please contact an expert (see below)! You might be asked to go back to the radon hut and try to restart the system.

How to restart the system (e.g. after power outage)

If you find the system stopped, then go to the grey plastic cabinet on the street side of the hut (see photo above). Open the cabinet door and you will see the control panel inside as shown below.



drive control panel



control keypad and display

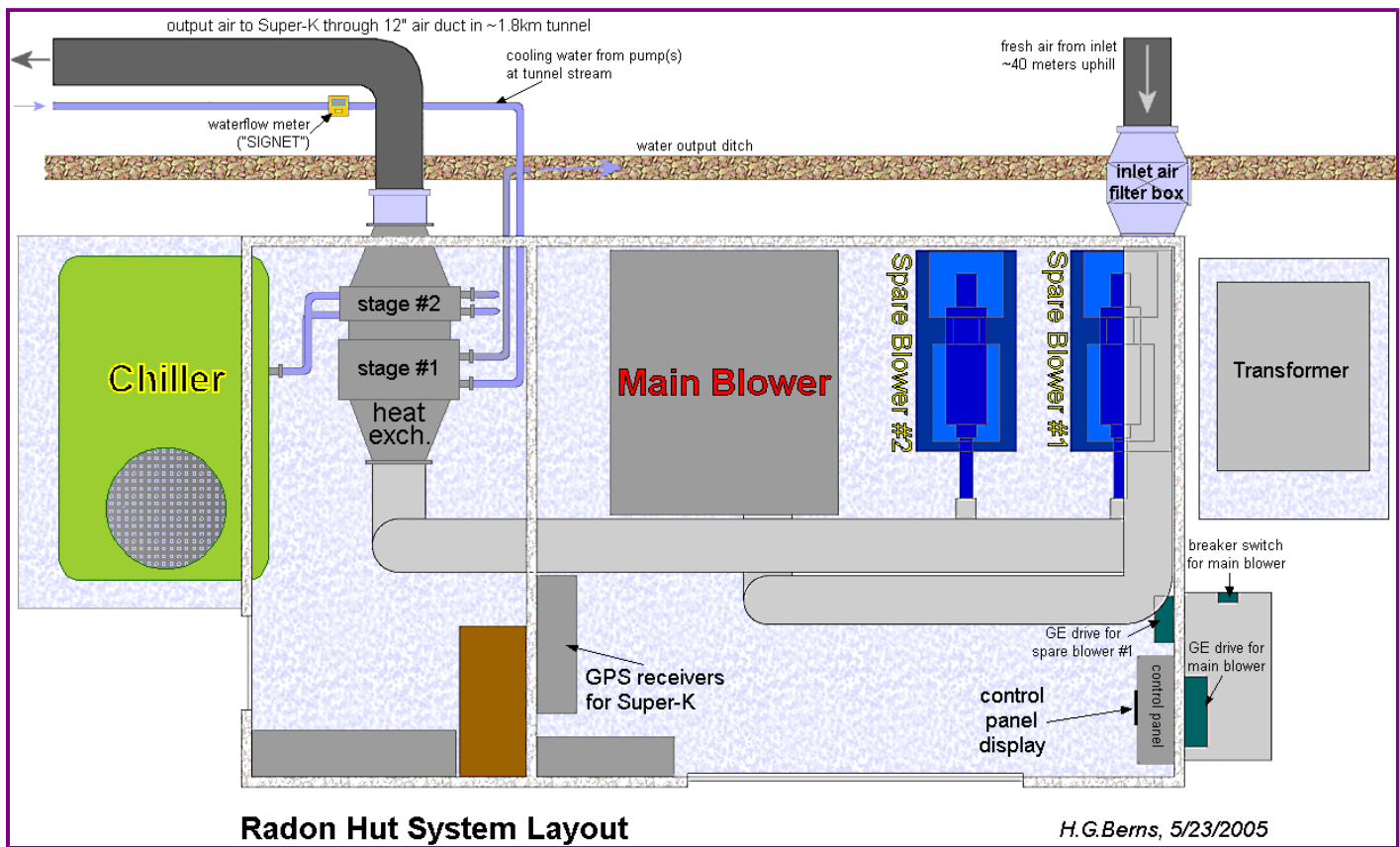
Normally, the display should show "60.00" (Hz). If it shows "0000", then push and hold the "UP" key for several

seconds until the number has incremented to 60.00. Then push the "FWD" (forward) button. [Careful, do not push the "REV" (reverse) button!] Then, please contact an expert as soon as possible and inform that the blower was stopped.

How to stop the system

Push the red STOP button on the drive controller in the plastic cabinet. The frequency of the blower will ramp down to 0.00 (Hz) within the next 20-30 seconds. After the blower stops, you'll see the display blinking with the default frequency (should be 60.00 Hz).

System Layout Diagram:



Experts

Hans Berns:	berns@phys.washington.edu	[0-001-010] 1-206-713-5919 (cell)
Jeff Griskevich:	ngriskev@uci.edu	[0-001-010] 1-949-824-7076
Roy Hall:	hall@sch2o.com	[0-001-010] 1-714-939-7873 ext. 13
Hank Sobel:	hsobel@uci.edu	[0-001-010] 1-949-824-6431, -6395