

EMERGENCY CASE MANUAL FOR EXPERTS

How to DRAIN 1kt tank

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- [1] Switch manual valves to *Drain Mode* - Neutrino Hall downstairs
- [2] Switch manual valves to *Drain Mode* - Tent House
- [3] Turn on main power of water system
- [4] Reboot PC in Tent House, switch automatic valves to *Drain Mode*
- [5] Confirm that *Drain Mode* works

Two CASES are considered

CASE 1 main power of water system TURED OFF

CASE 2 main power of water system ON

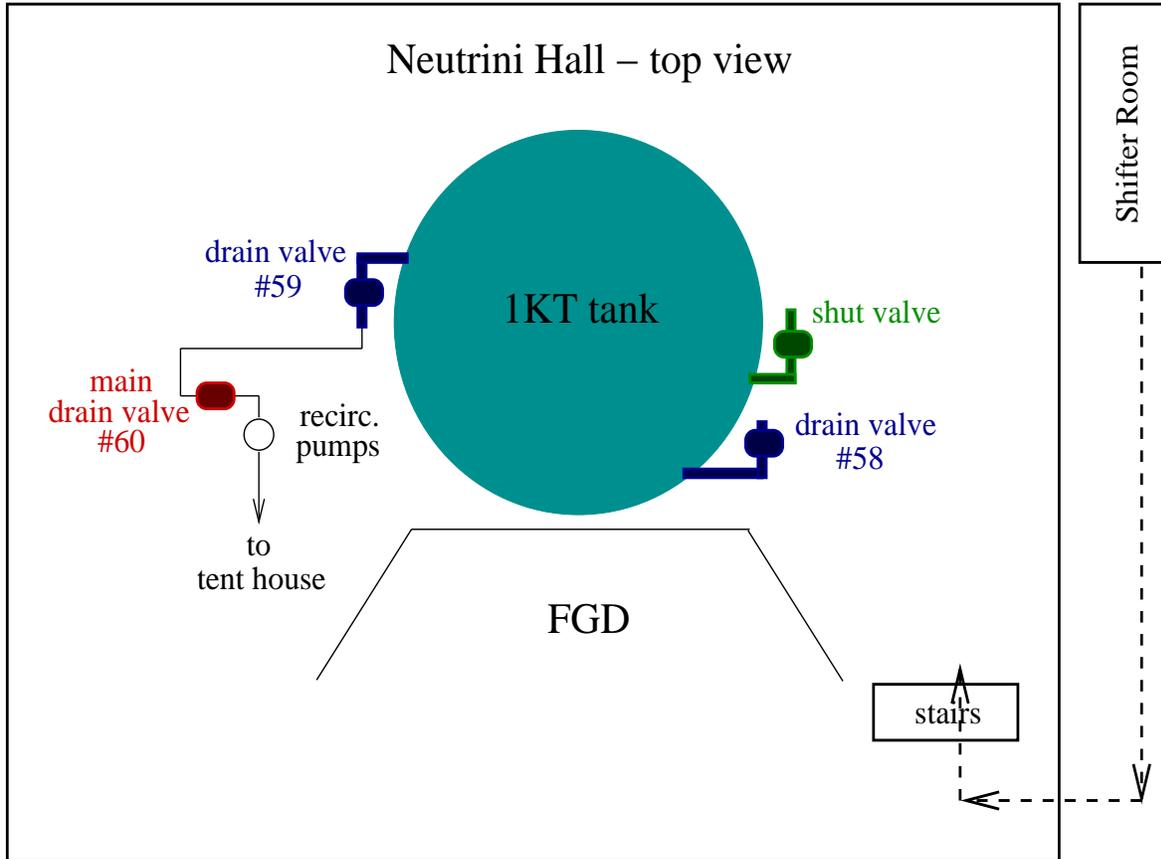
 buzer in shifter room beep =

 recirc. pump STOP + automatic shut valve STOP

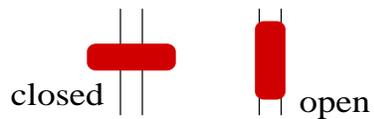
For details go to next page

START DRAIN

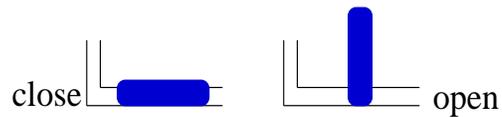
- [1] Go to Neutrino Hall
 - a. Put on boots, gloves etc...
 - b. Turn off main power of Front Detectors



- c. Confirm recirculation pump is OFF
 - if not use manual switch near to pumps
- d. Open main drain valve #60

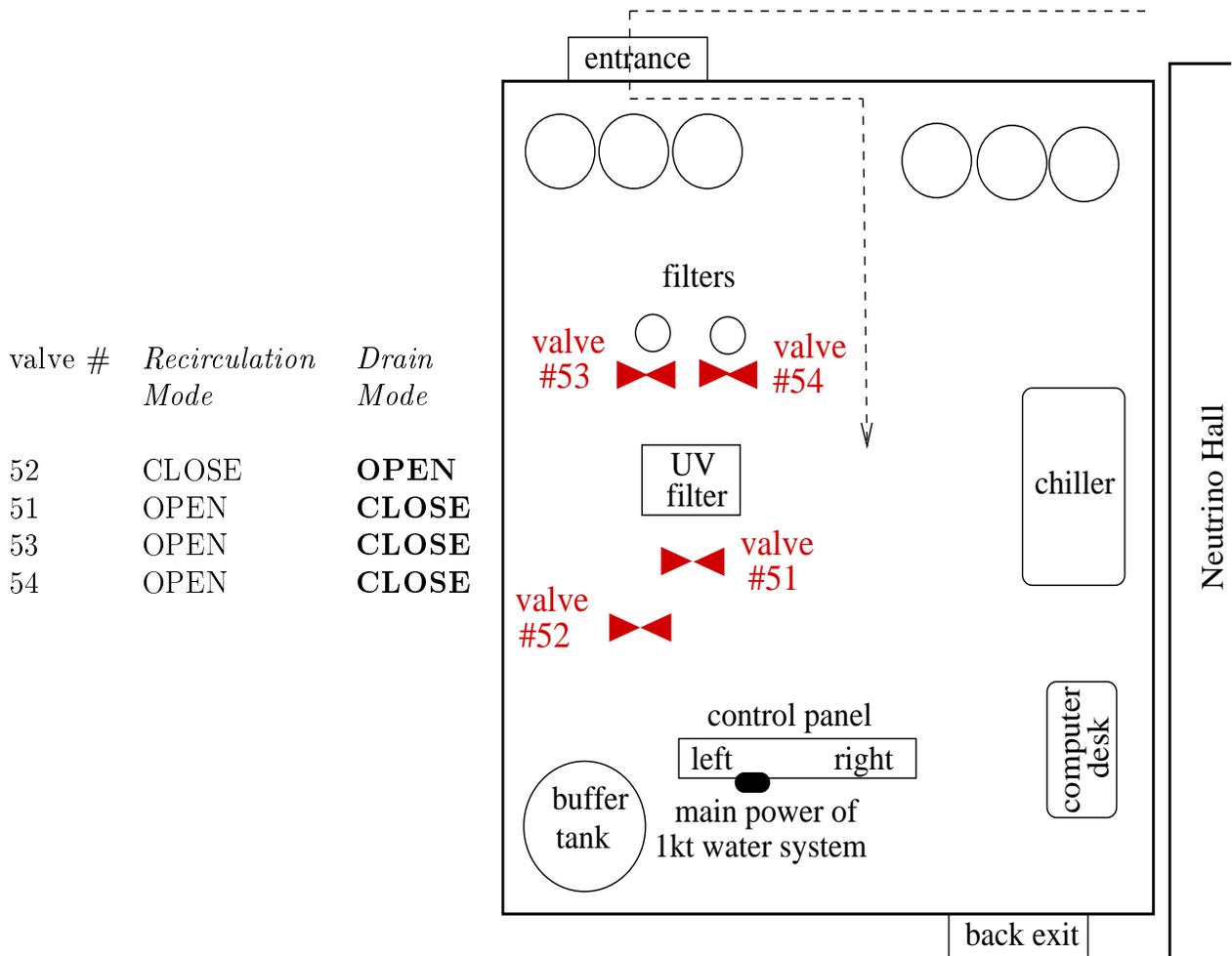


- e. Open drain valve #59



- f. Check if there is water leak downstream of automatic shut valve
 - in case there is close manual valve

[2] Go to Tent House - switch manual valves to *Drain Mode*



[3] CASE 1 ONLY

Turn on main power of water system

Push red button(ON) on left control panel

[4] Switch automatic valves to *Drain Mode*

CASE 1 ONLY

a. turn on main power of PC (wait for a while)

b. click 'Administrator'

c. type password 'fanuc'

COMON CASE 1 + CASE 2

d. click 'CimView'

e. click 'Start' ('K2Kmain.cim' window should appear)

f. click 'Pump Screen'

g. confirm all pumps are OFF

h. click 'Return to Home Screen'

- i. click 'Valve Screen'
- j. switch automatic valves to *Drain Mode*

| valve # | position at screen | <i>Recirculation Mode</i> | <i>Drain Mode</i> |
|---------|---|-------------------------------|-----------------------|
| 1 | right-upper one 'Detector valve #1' | OPEN | CLOSE |
| 4 | right-bottom one 'Detector valve #4' | OPEN | CLOSE |
| 8 | left-bottom one 'Recirc/Return #8' | OPEN | CLOSE |

- k. click 'Return to Home Screen'
- l. click 'Pump Screen'
- m. click 'Detector pump A' ON (right-top one in Pump Screen)'
- n. click 'Return to Home Screen'

[5] Check that *Drain Mode* works

- a. At PC 'K2Kmain screen' (large figure with water system scheme, where 'Pump Screen' and 'Valve Screen' are)
 - 'Detector Pumps' - bottom left, just after tank
shows $\neq 0.0$ PSI (standard ~ 66 PSI)
 - 'Fast Recirc. Filters' - bottom after 'Detector Pumps'
shows 0.0 PSI (standard ~ 58 PSI)
 - 'Total Return Flow' - bottom left, arrow going back to tank
shows 0.0 PSI (standard ~ 14 PSI)
0.0 GPM (standard ~ 87 GPM)
- b. Follow white pipe at the back of Tent House (outside)
 - check if water is flowing out
- c. 'Water level' and 'Total flow rate' can be also checked at
'Right Control Pannel' - second raw from bottom