I.2 DCS Basic Operation

In the **fig.10** you see the current EMU-DCS tree: the CMS_CSC node contains folders:

CSC_GAS
CSC_LV
CSC_HV
CSC_WTH *(environment conditions folder)*
CSC_ME_P1 *(ME+1)*
CSC_ME_P2 *(ME+2)*
CSC_ME_P3 *(ME+3)*
CSC_ME_P4 *(ME+4)*

Basically you can operate in the following main ways:

- you can switch the whole EMU-DCS or any brunch of it to another state
- you can browse the tree
- you can exclude (disable) or include (enable) a node in the tree so that the node not to affect or affect the state of other nodes in the tree.
- you can detect and cure alarms

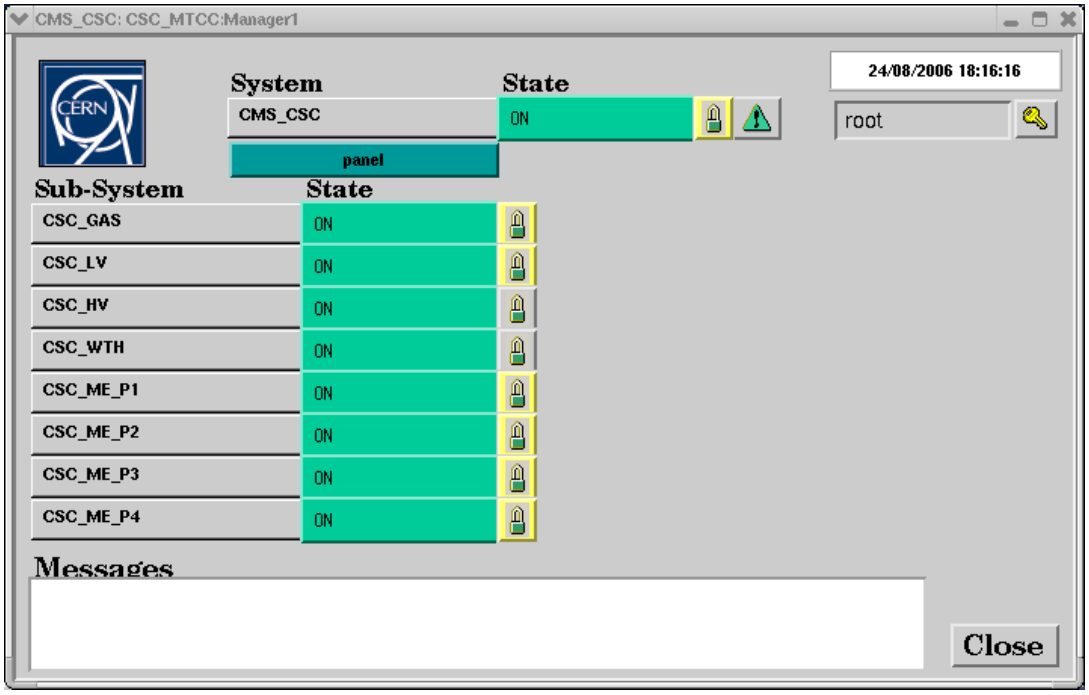

Fig.10

I.2.1 Switching ON the whole EMU-DCS and some browsing:

You may switch on the whole EMU-DCS as shown in the **figure.11** :

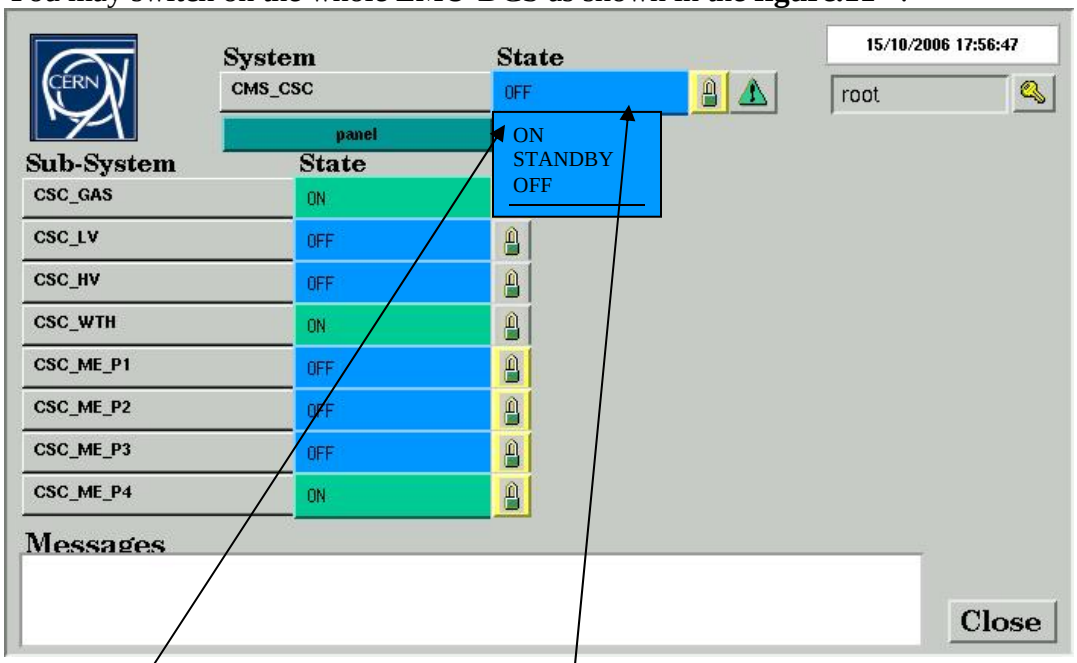

Fig.11

Click the "State" button opposite the "CMS_CSC" to see the list of possible commands:
Select "ON" to switch ON the whole EMU-DCS.
If you do that you will see the **fig.12** , i.e. the nodes CSC_ME_P1, CSC_ME_P2, CSC_ME_P3 still stay in the "OFF" state (until HV ramping is over).

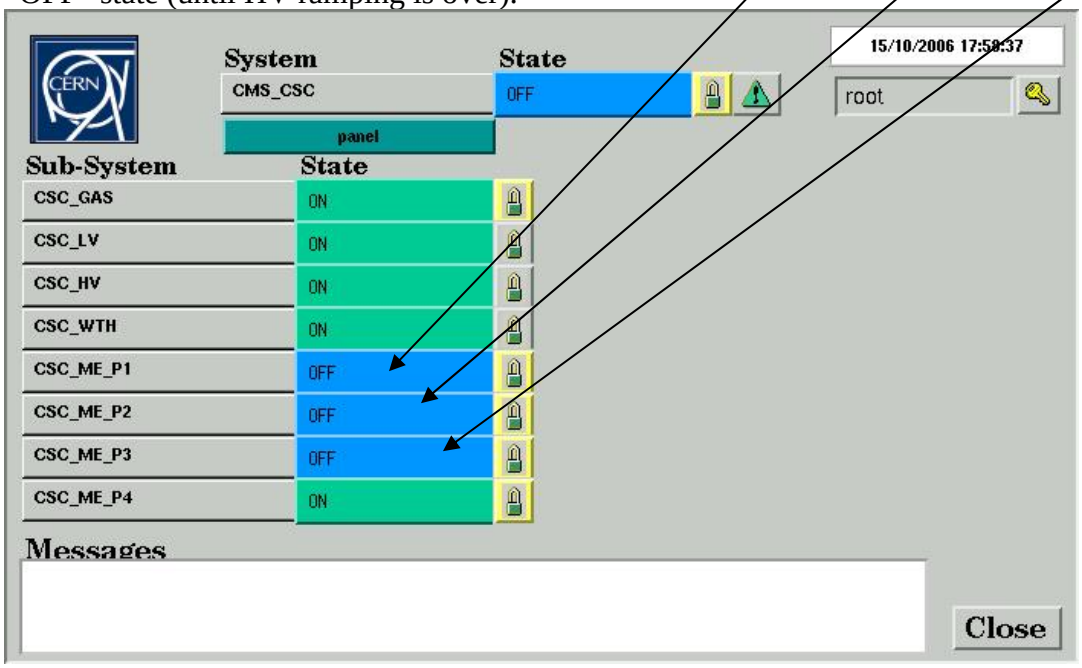

Fig.12

When the HV ramping is over (in a few minutes) we will see the **fig.13**

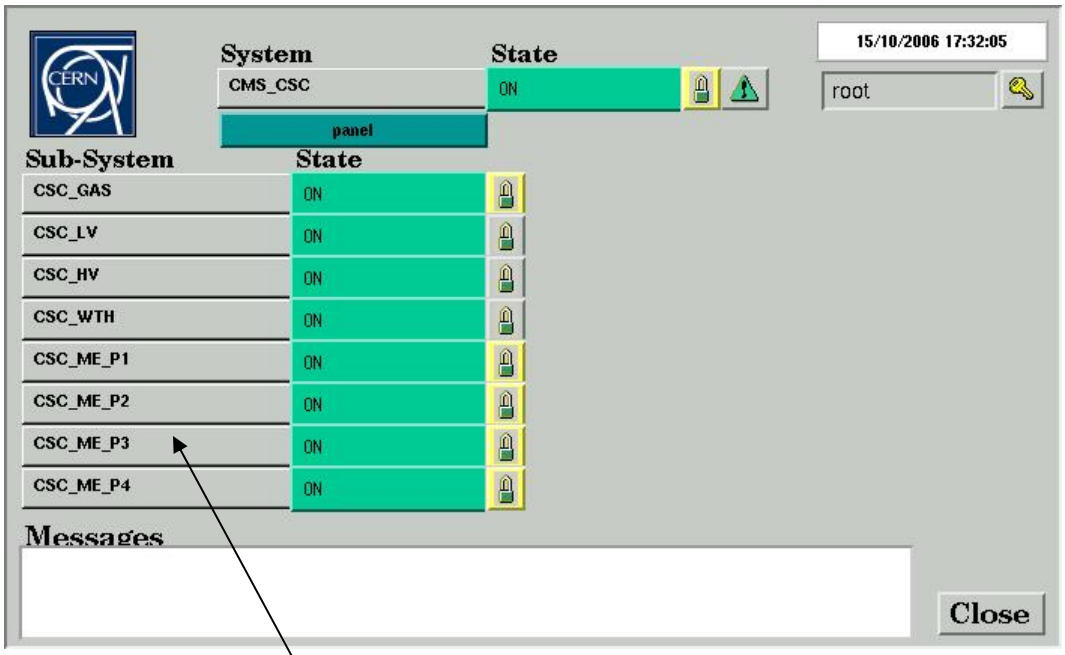

Fig.13

To look at details of what is happening "inside" the tree during the HV ramping you can brows the tree for example as follows:

a) double click the "CSC_ME_P3"
The new window is displayed (**fig.14**) In particular it contains the chamber nodes of ME+3

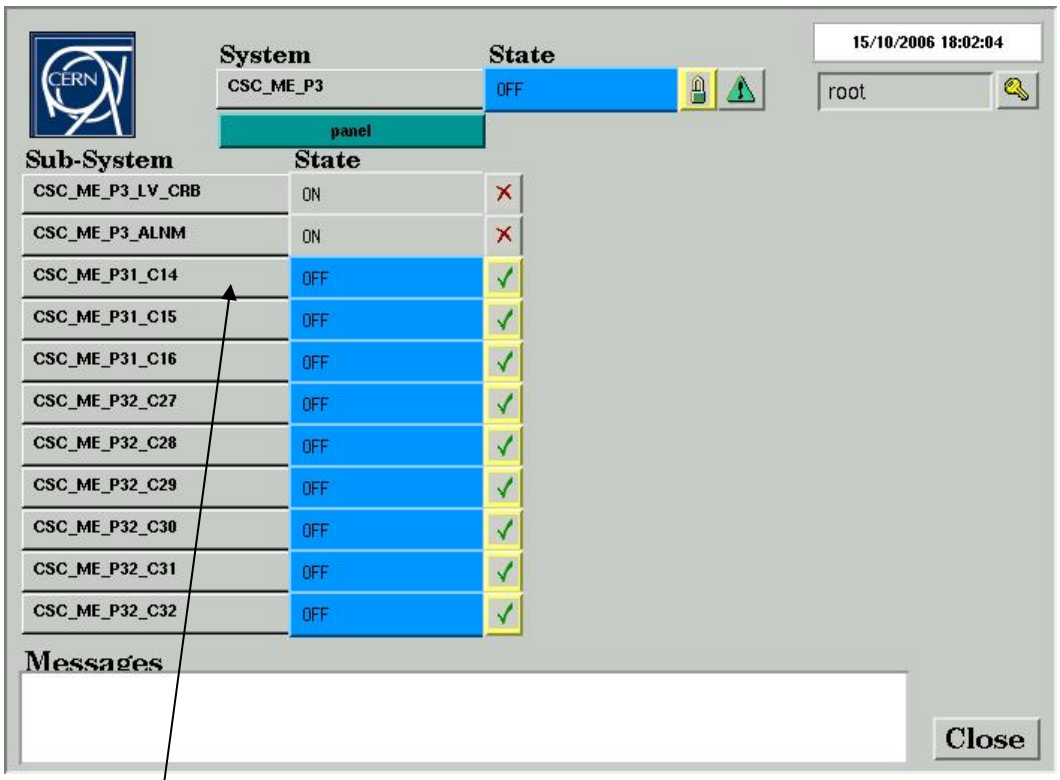

Fig.14

b) double click the "CSC_ME_P31_C14"
The new window is displayed (**fig.15**) In particular it contains the devices of the chamber ME+3/1/14

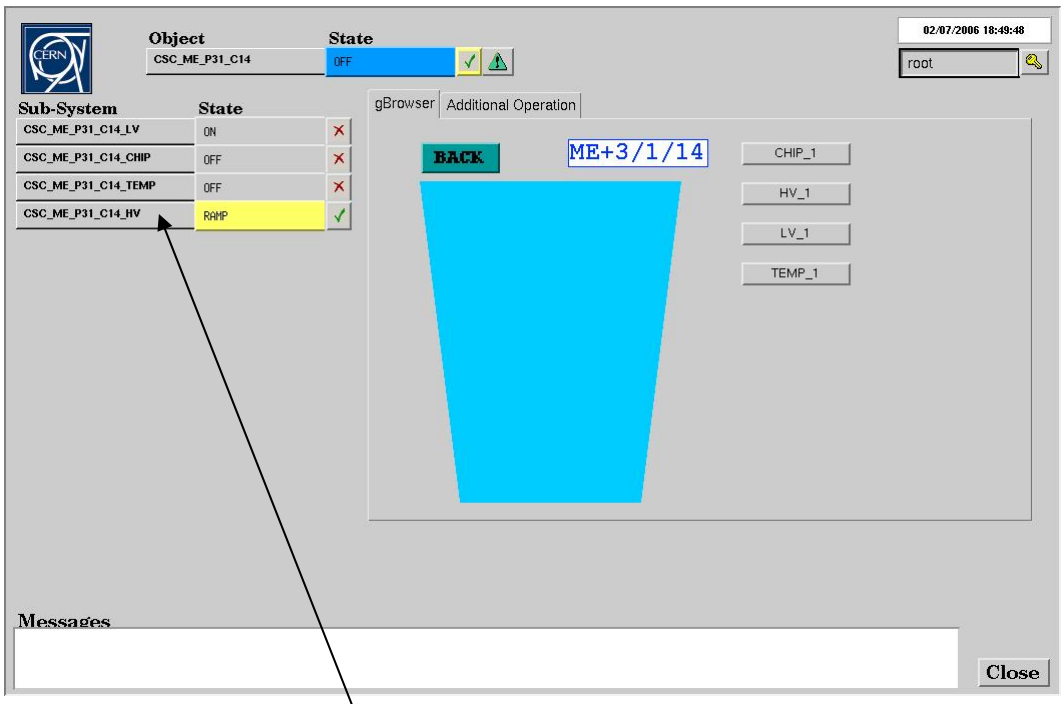

Fig.15

c) double click the "CSC_ME_P31_C14_HV" to see details of HV ramping for the selected chamber (**fig.16**)

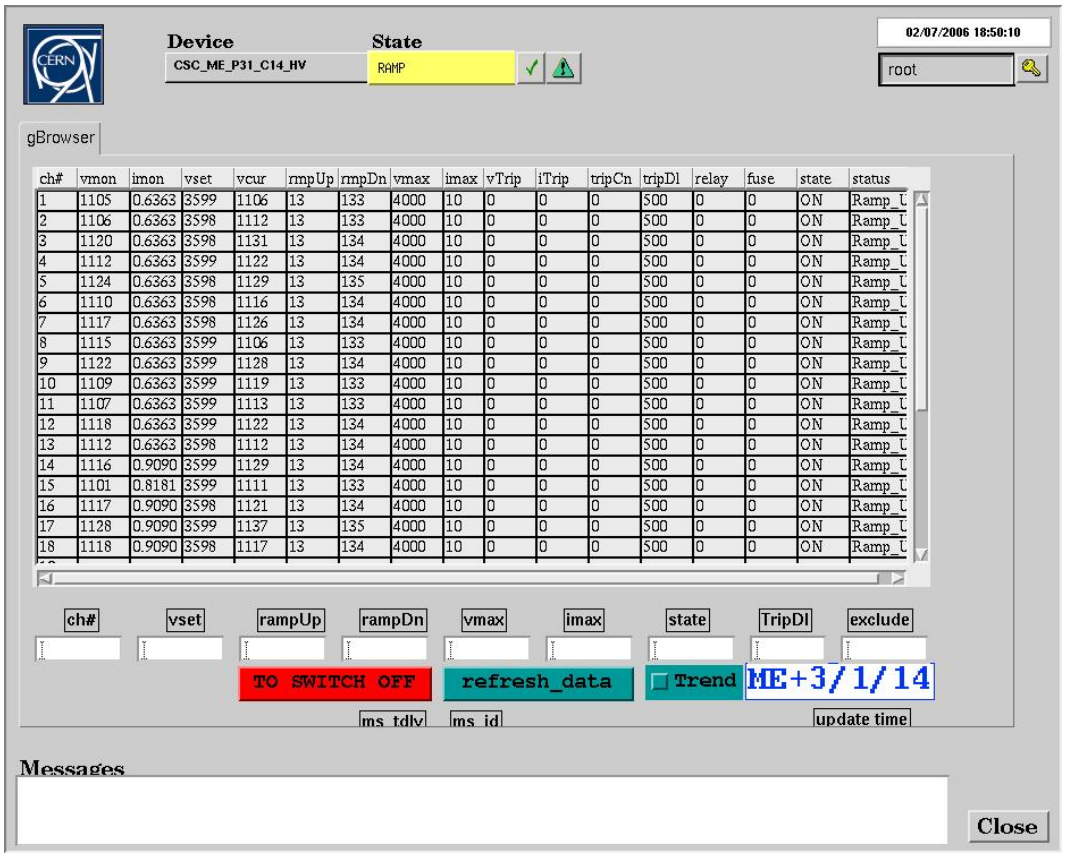

Fig.16

Switching OFF the whole EMU-DCS is not recommended as some Sub-Systems should stay ON to detect the alarms (gas, weather parameters). See below how to switch OFF particular Sub-Systems (HV, LV).I.2.2 Switching ON/OFF the particular Sub-Systems (HV, LV, ME stations)

1) Switching ON/OFF the general LV (maratons):
Use the window shown in **fig.17** to switch ON/OFF the node CSC_LV:
(click the "State" button opposite the "CSC_LV" node
to display list of possible commands:
Select ON or OFF depending on what you are going to do.)

2) Switching ON/OFF the chambers HV.
At the moment the following is recommended:
Use the window shown in **fig.17** to switch ON/OFF the nodes
"CSC_HV", "CSC_ME_P1", "CSC_ME_P2", "CSC_ME_P3"

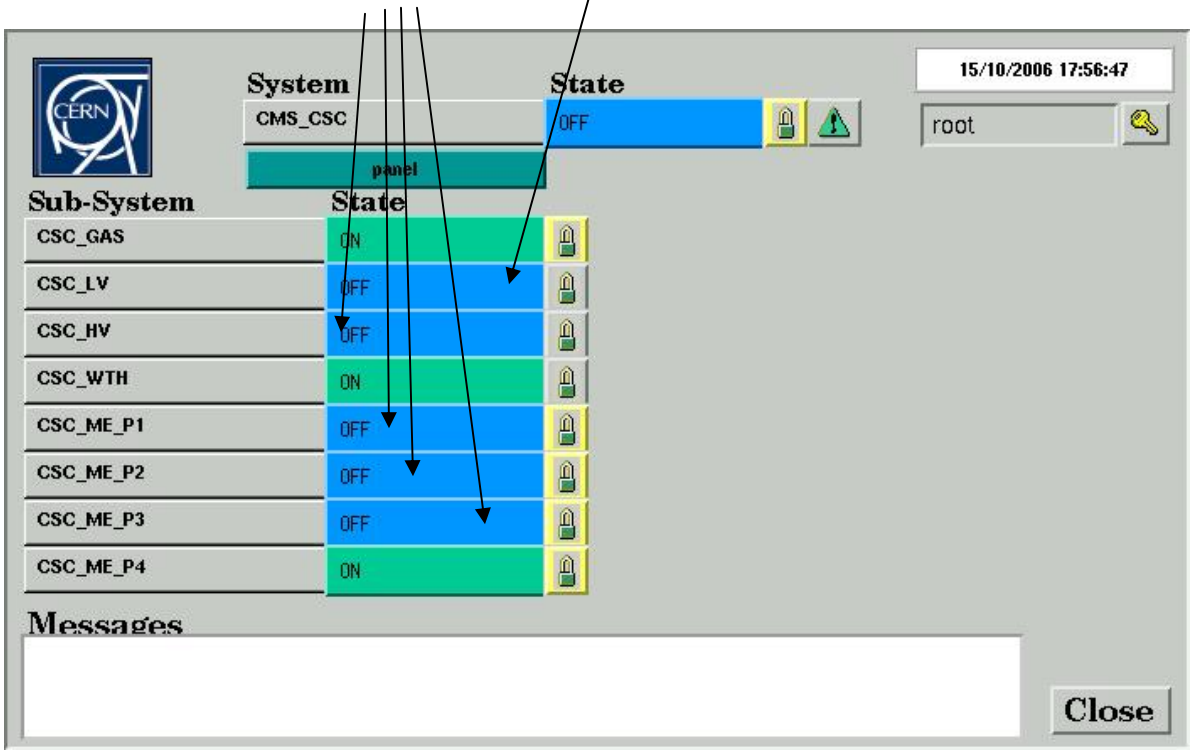

Fig.17

I.2.3 Detecting Alarms during the DCS operation

During the DCS operation the status of the DCS should be watched.

I.2.3.1 If you detect an SX5 Weather Alarm (display shown in the **fig.18)**

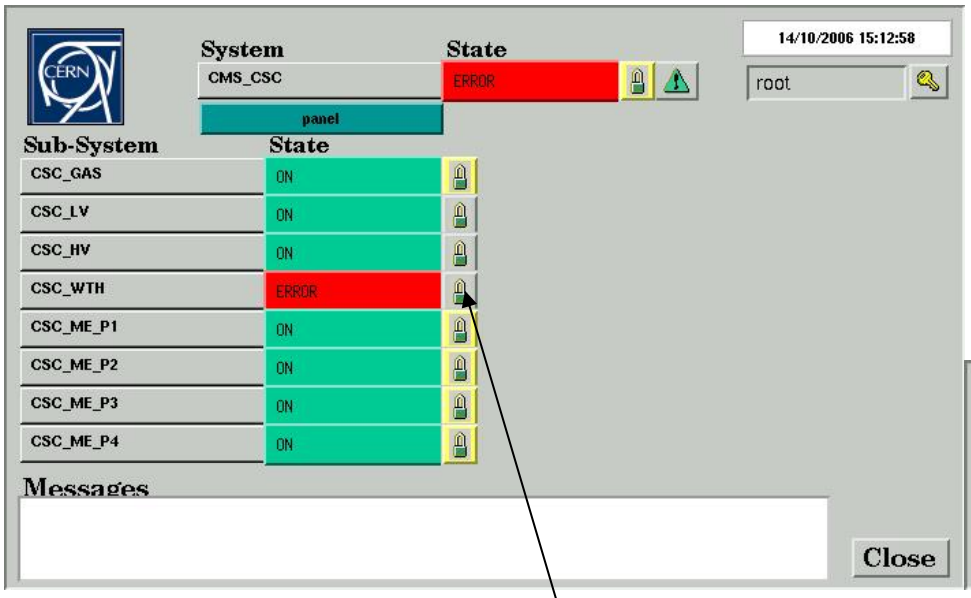

Fig.18a

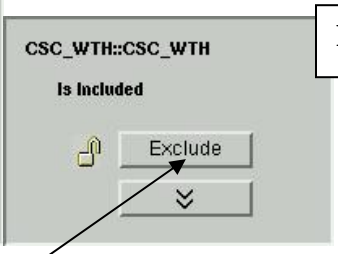

Fig.18b

do the following: (see **fig.18a**) Click a “lock” icon of the CSC_WTH (weather station node)
You will see a new popped-up window (**fig.18b**) Click “Exclude” button to have a display shown in **fig.19**

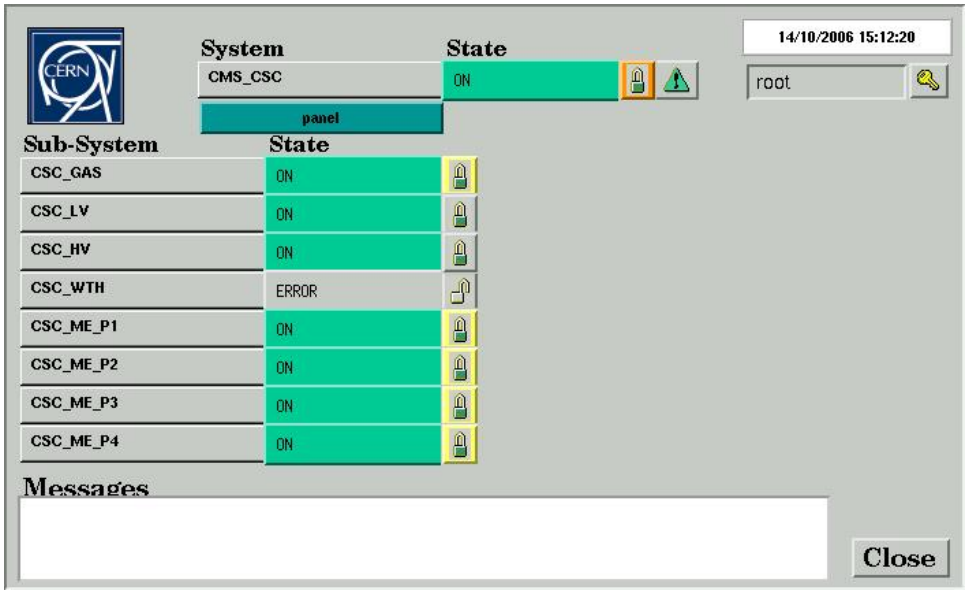

Fig.19

I.2.3.2 If you detect an alarm in CSC_LV node
or in one of the ME station nodes: CSC_ME_P1, CSC_ME_P2, CSC_ME_P3 like shown in **fig.20** please do a power cycling (switching OFF then ON) the alarmed node. If that does not help (i.e. the alarm is still ON) use the DCS_MTCC_PHASE2_A_HOW_TO_USE_DOCS.doc which should be used by experts only) or call the DCS expert

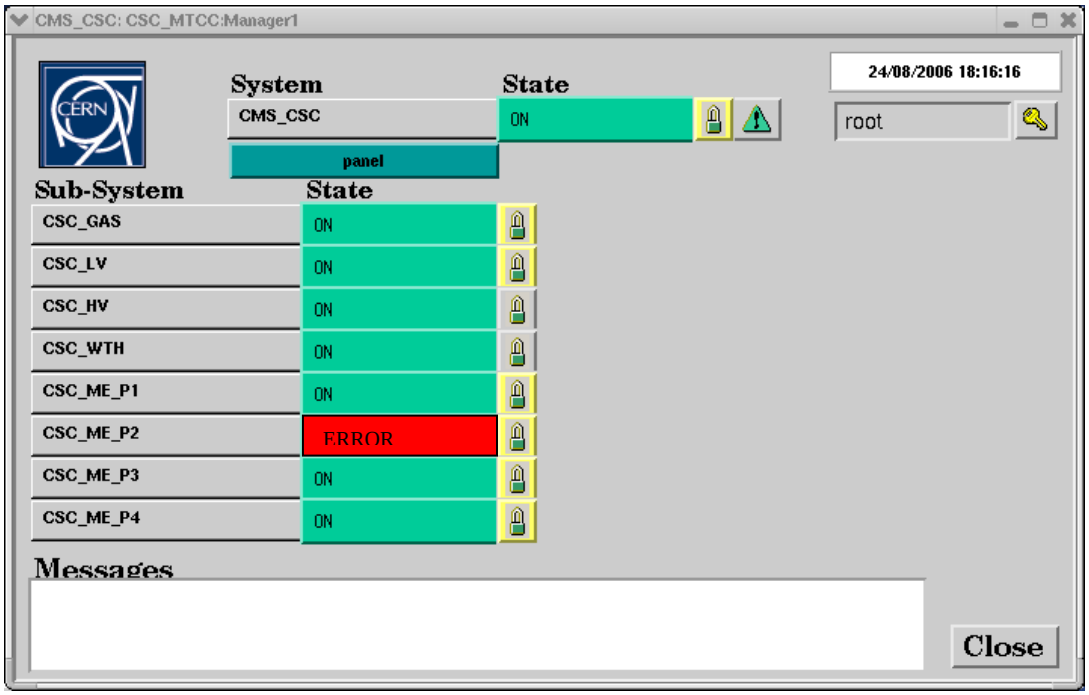

Fig.20