### **Operation with EMU-DCS in Green Barrack.**

## Level I: operation with CSC\_MTCC project:

### I.1 Start and initial operation

log on: machine: emudcs username: fast password: UFdqm\_04

Issue the command: emumtcc\_start and wait until the grey window "You can operate" (fig.1b )is displayed (in ~ 30 seconds)

Click "Close" button on the window: "You can operate" to close it

Identify the window "Device Editor & Navigator" (fig.1a)

	vice Editor & Running on: CSC_W dware Logical FSM SC_MTCC: AnalogDigital CAEN Wiener	Navigator 🕢		MYDEBUG Details: You can ope	Pratel	
Fig.	1a	Close Fig. 7	lb			Close

# Click FSM tab of the window "Device Editor & Navigator" (fig.2)

	vi	
CSC_MTCC: +CSC_MTCC		
		<b>D</b> •
		Fış
		Fl
		Flį
Start/Restart All	Ston All	Fl
Start/Restart All DIM_DVS_NODE:	Stop All	Fış
Start/Restart All DIM_DVS_NODE:	Stop All entdcs01.cern.ch	Fış

Click "Start/Restart All" and wait until the new popped up window "Please wait – All Domains Starting Up ..." is closed

Fig.3

Click the

+CSC\_MTCC

(the +CSC\_MTCC should be highlighted like shown in fig.3

Device Editor &	Navigator 🤌
Running on: CSC_N	ИТСС
Hardware Logical FSM	
+CSC_MTCC	
Start/Restart All	Stop All
DIM_DNS_NODE: cer	tdcs01.cern.ch
Nouigster mode	Co to Editor
Navigator mode	
	Close

**<u>Right click the +CSC\_MTCC to display the vertical pop-up menu:</u> (fig.4)** 

	: Navigator 🥪		
Running on: CSC_	мтсс		
Hardware Logical FSN	Λ		
	<u> </u>		
View		F1g.4	
Start/Restart node			
Start/Restart Tree			
Stop Tree			
Start/Restart All	Stop All		
Start/Restart All	Stop All		
DIM_DNS_NODE: cr	Stop All		
Start/Restart All DIM_DNS_NODE: co	Stop All		
DIM_DNS_NODE: c	Stop All entdcs01.cern.ch Go to Editor		
DIM_DNS_NODE: co	Stop All entdcs01.cern.ch Go to Editor		
DIM_DNS_NODE: co	Stop All entdcs01.cern.ch Go to Editor		
Start/Restart All DIM_DNS_NODE: cr	Stop All entdcs01.cern.ch Go to Editor Close		

Select the "View" and click on it to display the window shown in fig.5

	Svstem csc_mtcc	State OFF	<u>A 9</u>	02/07/2006 root	16:51:19	Fig.5
Sub-System	State N	<u></u>				
Messages						
					Close	

Click "Lock" icon to display the "Modes" window like shown in fig.6

(FR)		OFF	02/07/2006 16:51:19	Fig.6
Sub-System	State N	<u>_</u>		
				CSC_MTCC
Messages				Is Excluded
			Close	Take

Click "Take" button And wait the "Modes" window to disappear You will see fig7:

	Svstem csc_mtcc	State ERROR	02/07/200 root	06 16:58:25	Fig.7
Sub-System	n <mark>State</mark>				8
Messages					
ļ			 1	Close	

Double click the "CMS	_CSC"	node to	display	fig.8:
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System	State		02/07/2006 16:59:30	
CMS_CSC	ERROR		root 🔍	
panel				Fig.8
State				
ON	<b>a</b>			
OFF				
ON				
ON				
OFF	<u>a</u>			
OFF	8			
OFF	<u>a</u>			
ERROR				
			Close	
	System CMS_CSC State ON OFF OFF OFF OFF OFF CFF	System     State       CMS_CSC     FFROR       pauel     State       ON     Image: Constraint of the state       OFF     Image: Constraint of the state       ON     Image: Constraint of the state       ON     Image: Constraint of the state       OFF     Image: Constraint of the stat	System State   CMS_CSC ERROR   pauel   State   ON   OFF   ON   OFF   OFF	System State   CMS_CSC ERROR   pauel   State   ON   OFF   ON   OFF   OFF<

If the "CSC\_ME\_P4" node is RED (in ERROR state) like in fig.9 click "Lock" icon of the "CSC\_ME\_P4" node to display the "Modes" window.



### **I.2 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 tree 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.

Let's consider the switching and browsing using the possible ways of the DCS operation during the MTCC:

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

	System	State	02/07/2006	17:05:53	
CÉRN	CMS_CSC	OFF	root		
Sub-System	panel State	ON STANDBY			Fig.11
CSC_GAS	ON	OFF			
CSC_LV	OFF /				
CSC_HV	ON				
CSC_WTH	ON				
CSC_ME_P1	OFF				
CSC_ME_P2	0FF				
CSC_ME_P3	OFF				
CSC_ME_P4	ERROR				
Messages					
	/				
/	/			Close	

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



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

	System	State	02/07/200	6 18:53:30
CERNY	CMS_CSC	ON	root	
Sub-System	panel State			
SC_GAS	ON	<u>A</u>		
CSC_LV	ON	A		
CSC_HV	ON			
CSC_WTH	ON			
CSC_ME_P1	ON	A		
CSC_ME_P2	ON	A		
CSC_ME_P3	ON	A		
CSC_ME_P4	ERROR	-		
Messages				
	$\backslash$			Close

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

CERNY	System	State	02/07/2006 18:49:	15 ] <u>@</u> 1
M	panel		1000	Fig.14
Sub-System	State			
CSC_ME_P3_LV_CRB	ERROR	×		
SC_ME_P3_ALNM	ON	1		
SC_ME_P31_C14	OFF	1		
SC_ME_P31_C15	OFF	1		
SC_ME_P31_C16	OFF	1		
SC_ME_P32_C27	OFF	1		
SC_ME_P32_C28	OFF	1		
SC_ME_P32_C29	OFF	1		
SC_ME_P32_C30	OFF	1		
SC_ME_P32_C31	OFF	1		
CSC_ME_P32_C32	OFF	1		
lessages			-10	
			Clo	se

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

	Object CSC_ME_P31_C14	Sta OFF	e 62.87/2006 18:45 root	9:48	
Sub-System CSC_ME_P31_C14_LV CSC_ME_P31_C14_CHI CSC_ME_P31_C14_TEM CSC_ME_P31_C14_HV	CSC_ME_P31_C14	v × × ×	gBrowser     Additional Operation         BACK     ME+3/1/14         CHIP_1         HV_1         LV_1         TEMP_1		Fig.15
Messages				lose	

c) double click the "CSC\_ME\_P31\_C14\_HV" to see details of HV ramping for the selected chamber (**fig.16**)

CERN	X	I 	)evice	₽ _P31_C14	I_HV	S F	tate <sup>AMP</sup>			∕ ▲						02/07/200 root	06 18:50:10		
gBrows	ser																	Fig.16	
ch#	vmon	imon	vset	vcur	rmpUp	rmpDr	vmax	imax	vTrip	iTrip	tripCn	tripDl	relay	fuse	state	status			
1	1105	0.6363	3599	1106	13	133	4000	10	0	0	0	500	0	0	ON	Ramp U			
2	1106	0.6363	3598	1112	13	133	4000	10	0	0	0	500	0	0	ON	Ramp U			
3	1120	0.6363	3598	1131	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
4	1112	0.6363	3599	1122	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
5	1124	0.6363	3598	1129	13	135	4000	10	0	0	0	500	0	0	ON	Ramp_U			
6	1110	0.6363	3598	1116	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
7	1117	0.6363	3598	1126	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
8	1115	0.6363	3599	1106	13	133	4000	10	0	0	0	500	0	0	ON	Ramp_U			
9	1122	0.6363	3599	1128	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
10	1109	0.6363	3599	1119	13	133	4000	10	0	0	0	500	0	0	ON	Ramp_U			
11	1107	0.6363	3599	1113	13	133	4000	10	0	0	0	500	0	0	ON	Ramp_U			
12	1118	0.6363	3599	1122	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
13	1112	0.6363	3598	1112	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
14	1116	0.9090	3599	1129	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
15	1101	0.8181	3599	1111	13	133	4000	10	0	0	0	500	0	0	ON	Ramp_U			
16	1117	0.9090	3598	1121	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
17	1128	0.9090	3599	1137	13	135	4000	10	0	0	0	500	0	0	ON	Ramp_U			
18	1118	0.9090	3598	1117	13	134	4000	10	0	0	0	500	0	0	ON	Ramp_U			
5	•		•	•	•			•			•	•		•	•				
C	h#	Γ.	set	rar	aUan	rar	nDan	Vn	nax	lim	ax	sta	te	Trip	DI	exclude			
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						ms	tdlv	ms	id						upo	late time			
Mess	ages																		
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																	Close		
1																			

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)

 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\_ME\_P1", "CSC\_ME\_P2", "CSC\_ME\_P3"

3) "CSC\_HV" (**fig.17**) contains the general HV (HV primary supplies). Do not switch OFF the "CSC\_HV" unless an emergency situation. *Note that "CSC\_HV" should be ON if you are going to execute the (2)(ON), i.e. to switch ON the chambers HV* 

CERNY	System cms_csc	State	02/07/2000	6 17:05:53	<b>F</b> in 17
M	panel		11000		F1g.17
Sub-System	State				
CSC_GAS	ON				
CSC_LV	OFF				
CSC_HV	ON				
CSC_WTH	ON				
CSC_ME_P1	OFF				
CSC_ME_P2	OFF				
CSC_ME_P3	OFF				
CSC_ME_P4	ERROR	8			
Messages					
				Close	