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SMD Operations Procedures Manual

8.1.3.15 OPERATION OF THE MAGCOOL CRT

Text Pages 1 through 3

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Revision 02

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Signature on File
Division Head

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Date

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8.1.3.15 Operation of the MAGCOOL CRT

1.0 Purpose

This procedure provides instruction on the operation of the MAGCOOL CRT (video display).

2.0 Responsibilities and Scope

The operator is responsible for the operation of the CRT.

3.0 Prerequisites

- 3.1 The operator shall be instructed by a supervisor or designee.
- 3.2 Instruction shall include operation of control valves, open and close valves, and the starting of MAGCOOL equipment.

4.0 Precautions

- 4.1 Ensure that unauthorized personnel do not operate CRT.

5.0 Procedure

- 5.1 There are 3 types of valves in the system which are defined as follows:
 - 5.1.1 **DOV** valves are valves which are either open or closed. On the CRT, the color **YELLOW** means valve is closed. The color **RED** means the valve is open.
 - 5.1.2 **AOV** valves are modulating valves. On the CRT, the color **GREEN** means the valve may be manually adjusted from the CRT keyboard. The color **RED** mean the valve is operated automatically by the computer.
 - 5.1.3 **MOV** valves are manually opened or closed.
- 5.2 The CRT screen displays of the various pages will contain "FLAGS".
RED FLAG means computer logic is **ON**.
GREEN FLAG means computer logic is **OFF**.

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5.3 Equipment shown on displays such as compressors, circulating pumps, cold vacuum pump etc:

5.3.1 **RED** means equipment is **ON**.

5.3.2 **YELLOW** means equipment is **OFF**.

5.4 To display a page on the CRT screen:

5.4.1 Type the page number than press **SELECT**.

ex. D7 , press **SELECT**. The screen will display Low Temperature portion of the MAGCOOL operation as shown in Figure 1. The display includes date, time, flow diagram, process condition, controllers and trends etc.

To clear screen, press **EXIT**. Alternatively, one can switch to other control page.

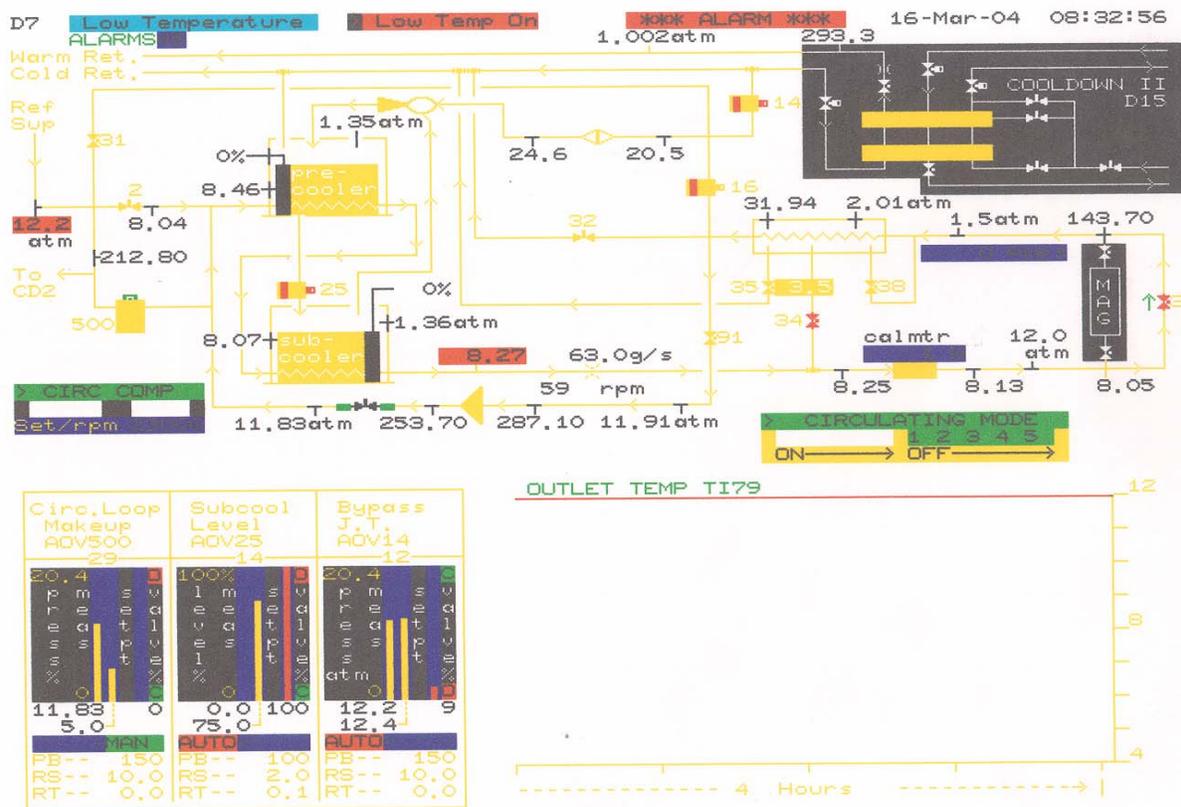


Figure 1. Display of control page D7

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5.5 Cursor on Screen

5.5.1 Move Cursor

5.5.1.1 Use either left or right arrows or Computer Mouse only.

5.5.1.2 When cursor is in position to **CHANGE A FUNCTION**, press **CLOSE or OFF** to close a valve or stop a piece of equipment.

5.5.1.3 Press **OPEN or ON** to open a valve or start a piece of equipment.

5.6 A menu of available displays are found on page D1.

5.6.1 Type "1", then press **SELECT or Enter?**. Figure 2 will be displayed on the screen.

5.6.2 Use the Next Key to access page above that displayed.

5.6.3 Major control pages are given in:

D3 - 100 HP Sullair Compressors

D5 – Purifiers A and B

D7 – Low Temperature MAGCOOL

D9 – Magnet Test Stand

D11 – Cooldown I, to 100 K

D13 – Warm up, to 300 K

D15 – Cooldown II

D17 – Lead Flow Control (Bay D and E)

D19 – Nitrogen Heat Shield (Low Temperature Cold Box, Magnet, Supply and Return Lines)

D21 – HEUB Liquefaction Mode for Vertical Test (using Wet Expander or JT valves)

D23 – Cooldown by pass for HEUB

D81 – Gas Recovery from B939 or AGS

D125, D141 – Forced Flow or Liquid Test of LHC magnets

D129 – Lead Flow Control (Bay C)

5.6.4 Information such as Analog Input and Output, Digital Input and Output, and Trends can be found on the proper page.

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5.6.5 Each page can be displayed or selected from the mouse or key board.

```
08:24:46          _____ LOCAL PCWS SCREEN DIRECTORY _____          16-MAR-04

  1> Display Directory
  2> D2 Utility Module Status
  3> D3 Compressors
  4> D4
  5> D5 Purifiers A and B
  6> D6
  7> D7 Low Temperature
  8> D8
  9> D9 Magnet Test
 10> D10
 11> D11 Cooldown I
 12> D12
 13> D13 Warmup
 14> D14
 15> D15 Cooldown II
 16> D16
 17> D17 Lead Flow
 18> D18
 19> D19 Nitrogen Heat Shields
 20> D20
 21> Vertical Test Liquefier
 22> D22
 23> Ref By-pass
 24> D24
 25> D25 Magnet Outlet Temp
 26> D26
 27> D27 Magnet Outlet Temp
 28> D28
 29> D29 Circulating Loop Flow
 30> D30
 31> D31 Cooldown I
 32> D32
 33> D33 Test & Meas
 34> D34
 35> D35 Memo Page
 36> D36
 37> D37 FI90 TI78
 38> D38
 39> D39 Wet Exp Inlet Temp
 40> D40

Press PREV key for prev Directory
SELECT Show Screen

Press NEXT key for next Directory
Press REMOVE key for MAIN MENU
```

Figure 2. Directory of MAGCOOL pages

6.0 Documentation

6.1 Documentation is kept in the CRYOGENIC Logbook in Building 902.

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7.0 References

- 7.1 An "Operation Program Guide" is given to all operators, and a copy is kept in the CRYOGENIC Control Room.

8.0 Attachments

None