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## SMD Operations Procedures Manual

### 8.1.3.11 OPERATION OF COOLDOWN #2 SYSTEM

Text Pages 1 through 2

#### Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Revision No. 03

Approved:

[Signature on File](#)

[5/14/2013](#)

Division Head

Date

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### **8.1.3.11 Operation of Cooldown #2 System**

#### **1.0 Purpose**

This procedure provides instructions for STARTUP/SHUTDOWN and operation of Cooldown #2. Cooldown #2 is mainly designed for 5 K cooldown of a magnet while the other magnet is in test. This procedure should not be used if there is only one magnet in MAGCOOL Test Stand. For all Horizontal Tests performed since 2000, the Cooldown #2 procedure was not used and HEUB refrigerator was used for 5 K cooldown.

#### **2.0 Responsibilities and Scope**

Operator is responsible for STARTUP/SHUTDOWN and operation of Cooldown #2.

#### **3.0 Prerequisites**

- 3.1 Operator shall be instructed by a supervisor or designee.
- 3.2 Instruction shall include operation of 100 HP Sullairs, MAGCOOL Purifiers, Cooldown #1, Test and Measure, Mycom compressor and the Model 4000 refrigerator (MAGCOOL Refrigerator).

#### **4.0 Precautions**

- 4.1 Hearing protection will be worn in the Compressor Rooms and in the Refrigeration Room. (MODEL 4000).
- 4.2 Ensure only authorized personnel are on Low Temperature Box, or are escorted by an authorized person.

#### **5.0 Procedure**

- 5.1 **Test and measure system must be running**, with liquid He in Pre-cooler and Sub-cooler pots.
- 5.2 To remove magnet from Cooldown #1.
  - 5.2.1 Page D9, cursor to Cooldown #1, Press **CLOSE or OFF**. Enter in Logbook.
- 5.3 To install magnet in Cooldown #2.

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- 5.3.1 Display Pg. D9, cursor on Cooldown #2, Press **OPEN or ON**. Enter in Logbook.
- 5.4 Operation of Cooldown #2 is computer controlled. Process conditions and controller can be seen from the screen similar to Figure 1. In Cooldown #2, helium flow from CS5 through Cooldown 2 heat exchanger is used to cool the magnet. A small amount of cold helium, extracted from AOV5 in the Low Temperature Cold Box, is used to provide the necessary cooling to 10 K.
- 5.5 Magnet is completed when done **FLAG** appears.
- 5.4.1 Done flag appears at  $10^0$  K.

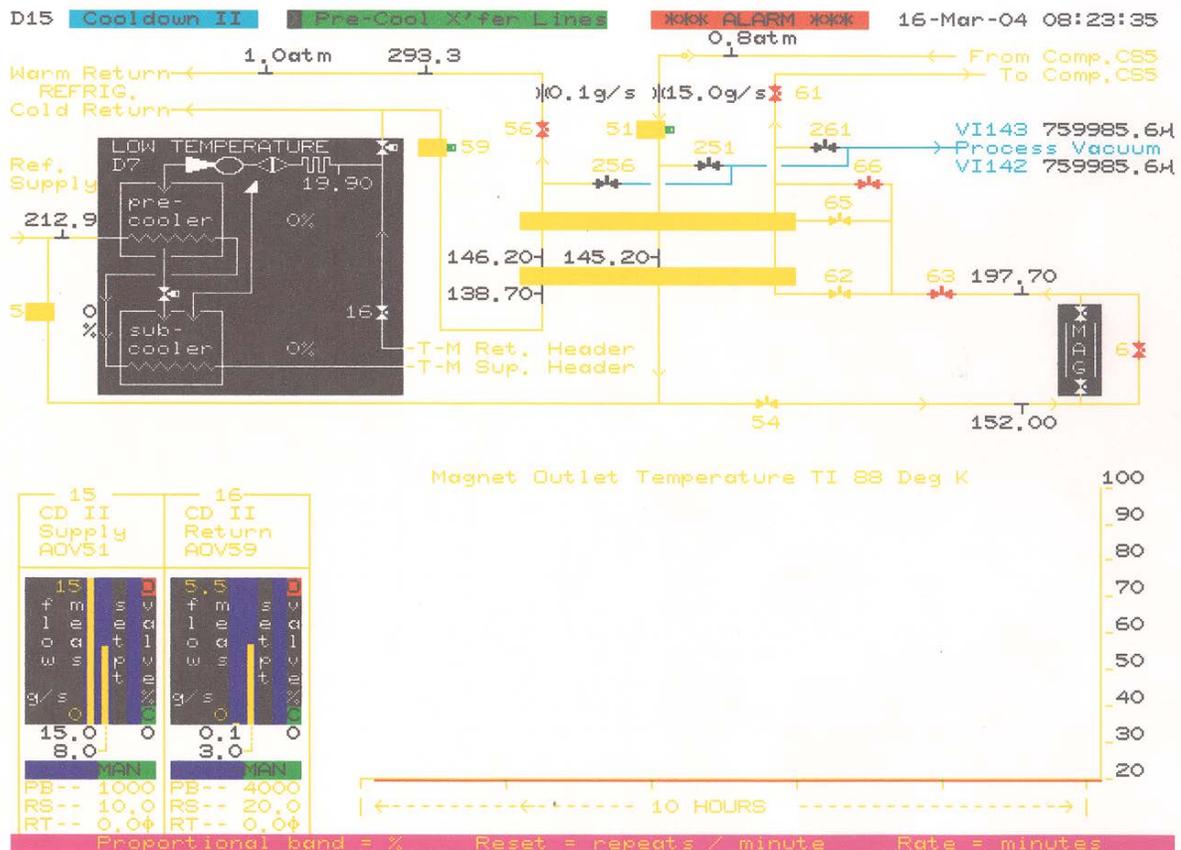


Figure 1. Display of control page D15 for Cooldown #2

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## **6.0 Documentation**

6.1 Documentation is kept in the CRYOGENIC logbook located in Building 902.

## **7.0 References**

7.1 Operations and Maintenance manual provided by CVI is kept in the CRYOGENIC Control Room located in Building 902.

7.2 An Operators Problem Guide and Operations Guide is give to all operators and a copy is kept in the CRYOGENIC Control Room located in Building 902.

## **8.0 Attachments**

None