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C-A OPERATIONS PROCEDURES MANUAL

11.4.2 Procedure for Preparing the STAR Magnet for Operations

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Hand Processed Changes

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Approved: \_\_\_\_\_ *Signature on File* \_\_\_\_\_  
Collider-Accelerator Department Chairman Date

R. Longacre

## **11.4.2 Procedure for Preparing the STAR Magnet for Operation**

### **1. Purpose**

The purpose of this procedure is to prepare for operation of the STAR magnet. The procedure consists of ensuring that barriers, warning signs, and lights are in place before energizing the power supplies. Typically this will take place at the beginning of each RHIC running period or after power supply LOTO.

### **2. Responsibilities**

- 2.1 The STAR Magnet Coordinator (SMC) is responsible for initiating and participating in this procedure.
- 2.2 The SMC shall assure that when RHIC is circulating beams the magnet settings shall not be changed without authorization from the MCR operations coordinator.
- 2.3 The Collider-Accelerator Support (CAS) watch is responsible for unlocking the power supplies.
- 2.4 The CAS watch is responsible for LOTO of the power supplies when requested by the magnet operator.
- 2.5 The STAR Facility Manager, or designee, is responsible for LOTO of the power supplies when the barriers are not in place.
- 2.6 The STAR Facility manager is responsible for locking out the crane in the Wide Angle Hall when the magnet is on, but may approve operation that he/she determines to be safe on an individual basis.
- 2.7 The STAR Magnet Training Coordinator is responsible for training the STAR magnet operators.
- 2.8 The STAR facility Manager is responsible for setting up the barriers.

### **3. Prerequisites**

- 3.1 All personnel involved in working on any electrical system or equipment in the C-A shall be familiar with [BNL SBMS Electrical Safety](#), [BNL SBMS Lockout/Tagout Implementation Plan](#), [C-A-OPM 1.5, "Electrical Safety"](#), [C-A-OPM 1.5.3, "Procedure to Open or Close Breakers and Switches"](#), [C-A-OPM 2.36 "Lockout/Tagout for Control of Hazardous Energy"](#). C-A will provide on-site/work specific training to individuals in the electrical safety aspects of their job functions and assignments.

- 3.2 The STAR Magnet Coordinators are STAR personnel responsible for preparing

the magnet for operation. A list of the coordinators is given in [C-A-OPM-ATT 11.4.2.c "List of STAR Magnet Coordinators"](#).

- 3.3 Whenever the magnet is enabled or powered, a designated magnet operator must be present at all times.
- 3.4 Before the magnet can be run, the STAR Facility manager, or designee, shall ensure the barriers are in place. The barriers, shown in Attachment 8.1, are set to prohibit personnel access to high magnetic field regions near the pole tips, and prohibit access to the upper half of the magnet iron during operation. When the barriers are not in place, LOTO procedures will be used to lock out the magnet.
- 3.5 Before the first operation of the magnet in a running period the CAS watch shall check the accessibility and operation of the crash buttons located near the corners of the platforms.

#### **4. Precautions**

None

#### **5. Procedures**

- 5.1 The STAR facility manager shall set the barriers as shown in Attachment 8.1.
- 5.2 Request that the STAR facility manager remove his/her LOTO from the power supplies.
- 5.3 The SMC shall call the CAS watch to remove the CAS LOTO on the power supplies as per procedure [C-A-OPM 11.4.3](#).
- 5.4 The SMC shall inform any personnel close to the magnet, including those on the North and South platforms that the magnet is about to be powered.
- 5.5 CAS watch shall unlock the power supplies and get them to the "standby" state in local control.
- 5.6 The CAS watch shall prepare the power supplies for use to the point that the magnet is in standby with local control.
- 5.7 With the SMC near the entrance gates, the CAS watch shall set the magnet to "on" and the magnet operator shall confirm that the audible warning sounds. The power supplies shall be kept in local control at Zero current.
- 5.8 The SMC will then complete the checklist, Attachment 8.1.

5.9 The signed check list ([C-A-OPM-ATT 11.4.2.b](#)), shall be given to the Shift Leader for entry into the log. A new checklist will be needed whenever the barriers have been disturbed.

5.10 The CAS watch shall now set the power supplies to "standby" and "remote", to give control to the SMC.

**6. Documentation**

6.1 The signed checklist.

**7. References**

7.1 [C-A-OPM 11.4.3 "STAR Power Supply Operating Procedure"](#).

**8. Attachments**

8.1. [C-A OPM-ATT 11.4.2.b "Check List for Barriers & Lights plus Pictures"](#).

8.2 [C-A-OPM-ATT 11.4.2.c "List of STAR Magnet Coordinators"](#).