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C-A OPERATIONS PROCEDURES MANUAL

11.2.1 Preparation of the PHENIX Magnets for Routine Operation

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

Y. Makdisi

11.2.1 Preparation of the PHENIX Magnets for Routine Operation

1. Purpose

The purpose of this procedure is to prepare for operation of the PHENIX magnets. The procedure consists of ensuring that barriers, warning signs, and lights are in place before energizing the power supplies.

2. Responsibilities

- 2.1 The PHENIX Run Coordinator is responsible for initiating and participating in this procedure.
- 2.2 The Collider-Accelerator Support (CAS) watch is responsible for unlocking the power supplies.
- 2.3 The CAS watch is responsible for LOTO of the power supplies when requested by the PHENIX Run Coordinator.
- 2.4 The PHENIX Run Coordinator, or designee, is responsible for locking the magnet magnetic safety interlock keys in the designated place in the PHENIX control room when the Magnets are not in operation.
- 2.5 The PHENIX Run Coordinator, or designee, is responsible for locking out the crane in the Interaction Region when any of the magnets are on, but may approve operation that is safe on an individual basis, subject to work permit, approved by Work Control Coordinator, or PHENIX Liaison Physicist, or PHENIX Liaison Engineer.
- 2.6 The PHENIX Run Coordinator is responsible for setting up the barriers at the 500 Gauss limits. Signs will be posted at the barriers warning: "Danger High Magnetic Field."

3. Prerequisites

- 3.1 All personnel involved in working on any electrical system or equipment in the C-AD, shall maintain up-to-date qualifications in required electrical safety training. C-AD will provide on-site/work specific training to individuals in the electrical safety aspects of their job functions and assignment. In addition, all personnel shall ensure proper PPE is worn to perform electrical tasks.
- 3.2 The PHENIX magnet operators shall consist of PHENIX shift leaders. They will be responsible for setting the currents for PHENIX magnet(s) operation.
- 3.3 Whenever a magnet is enabled or powered, the PHENIX shift watch needs to be

present.

- 3.4 Before a magnet can be run the PHENIX Run coordinator, or designee, shall ensure the barriers, as shown in [C-A-OPM-ATT 11.2.1.a](#), are in place.
- 3.5 The PHENIX RUN Coordinator shall make sure that the 5 Gauss perimeter shall be posted, as delineated by ES&H technician, to warn personnel with a medical implant or pacemaker.
- 3.6 The PHENIX Run Coordinator, or designee, shall make sure that the area within 500 Gauss limit is cleaned up, with no loose magnetic material there.
- 3.7 Before the first operation of a magnet in a running period, the CAS watch shall complete the White Sheet Check List, which includes check of the accessibility and operation of the crash buttons, and blinking magnet on lights located near the corners of the magnet's iron.

4. Precautions

None

5. Procedures

- 5.1. The PHENIX Run Coordinator shall call the CAS watch to remove the CAS LOTO on the respective power supply so that it can be controlled by PHENIX.
- 5.2. The PHENIX Run Coordinator shall enable the magnetic safety key interlock located in the rack PCR.0.5 in the PHENIX control room.
- 5.3. The PHENIX Run Coordinator, or the Shift Leader, shall inform any personnel close to the magnet, including those on the East, West platforms and scaffolds, that the magnet is about to be powered.
- 5.4. The CAS watch shall prepare the power supplies for use to the point that the magnet is in standby with local control. The power supplies shall be kept in local control at Zero current.
- 5.5. The PHENIX Run Coordinator will then complete the checklist, [C-A-OPM-ATT 11.2.1.b](#).
- 5.6. The signed checklist shall be given to the Shift Leader for entry into the log. A new checklist will be needed whenever the barriers have been disturbed.
- 5.7. The CAS watch shall now set the power supplies to "standby" and "remote", to give control to the PHENIX Run coordinator.

6. Documentation

None

7. References

None

8. Attachments

8.1 [C-A-OPM-ATT 11.2.1.a “Location of Magnetic Field Barriers”](#).

8.2 [C-A-OPM-ATT 11.2.1.b “Checklist for Barriers and Lights”](#).