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C-A OPERATIONS PROCEDURES MANUAL

5.14 AGS High Field Sextupole Magnets Heat Check

Text Pages 2 through 3

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved: _____ *Signature on File* _____
Collider-Accelerator Department Chairman Date

R. Zaharatos

5.14 AGS High Field Sextupole Magnets Heat Check

1. Purpose

To be used to insure that all high field sextupole magnets are operating at the proper temperature and that all connections and buss work are assembled in the proper fashion.

2. Responsibilities

2.1 System specialists are responsible for the execution of this procedure.

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 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 AGS ring must be on controlled access, locked, and all gates reset, except for the south gate, to allow test team to enter ring.
- 3.3 MMPS LOTO performed by C-A operators, as per [C-A-OPM 2.6.6](#).
- 3.4 VSEXT, HSEXT magnet power supply systems are ready for operation and unlocked.
- 3.5 Personnel shall maintain a clearance of 3'-6" from energized equipment.
- 3.6 Personnel shall remain in main aisle. No one is permitted on the catwalk behind the girder or on the girder itself.
- 3.7 Power supplies to be set to a test function of 250A DC and turned ON by MCR operators.
- 3.8 Three people are to enter the AGS ring to conduct the test. One person shall act as safety watch who shall bring a pair of high voltage electrical gloves if needed.
- 3.9 One person shall record data and one person shall operate the heat tracer gun.
- 3.10 Personnel shall wear appropriate PPE including safety glasses.

4. Precautions

- 4.1 All personnel shall ensure their own safety by following the standards, safety rules, and the training they receive. In general, all energy sources must be locked out and tagged. Working on or near energized sources, "Working Hot", is not permitted unless a valid working hot permit has been issued. Personnel shall utilize tools, instruments, equipment (e.g., proper connectors and proper ac line cords), etc., that are safe and proper for the job. If any part of a job appears unsafe to any individual it is their duty to discontinue work and inform the supervisor, manager, ESH Coordinator or the C-A ESHQ Division Head, of the unsafe condition.
- 4.2 The power supply system is rated at 700 amps at 170 volts dc.
- 4.3 High levels of radiation exists in the test area. Limit time and distance as per good ALARA procedure.
- 4.4 All other equipment shall be considered to be "on".

5. Procedure

- 5.1 The heat gun will be aimed at appropriate components of the high field sextupole magnets. All buss connections shall be checked for poor connections. All coils shall be checked for abnormal operating temperatures.

6. Documentation

- 6.1 A report of all findings shall be submitted to the Operations Coordinator, Maintenance Coordinator and the systems engineer.

7. References

- 7.1 [C-A-OPM 2.6.6, "Procedure for Lockout Tagout of The AGS \(Siemens\) Main Magnet Power Supply"](#).

8. Attachments

None