

**OPERATION OF THE PHENIX-MUID PANEL  
HIGH VOLTAGE SYSTEM IN BUILDING 1008  
FOR PANEL TESTING**

Text Pages 1 through 3

**Hand Processed Changes**

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REVISION CONTROL SHEET

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A	First Issue	7/10/1998	n/a	K. Read, W. McCabe, A. Etkin	n/a
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## 1.0 Purpose and Scope

This procedure provides instruction for starting up and shutting down of the high voltage system for testing a PHENIX-MUID panel in building 1008.

## 2.0 Responsibilities

- 2.1 Operator is responsible for conducting the procedures and logging of the gas and the high voltage operation.

## 3.0 Prerequisites

- 3.1 An exclusion zone shall be established around the operating panels using caution rope and signs indicating "Danger – High Voltage." Zone shall include all of the MuID steel (for that arm) including the space above it and a space of at least one foot from the operating panel. **[No personnel shall enter this area and no changes to the electronic equipment on the chamber shall be made with the high voltage on.]**
- 3.2 Attach to the barriers of the exclusion zone signs indicating that tests are being conducted and unauthorized personnel are to keep out.
- 3.3 Signs indicating the presence of high voltage will be posted on the perimeter of the exclusion zone when the high voltage is in use.
- 3.4 An area surrounding the measurement and gas supply equipment shall be labelled as "authorized MuID test personnel only" with appropriate telephone extensions listed.
- 3.5 Operator shall have completed BNL compressed gas and electrical safety training.
- 3.6 Operator shall be designated as being cognizant of proper operating practices by the technical supervisor.
- 3.7 A two-person watch shall be used when high voltage is on.
- 3.8 Inform personnel in Bldg. 1008 that MuID tests are being conducted and the extent of the exclusion zone.
- 3.9 A shorting terminator shall be connected to the high voltage cable leading to the panel to verify release of stored energy before entering area.
- 3.10 The panels to be tested will have their frames grounded to the MuID steel.

## 4.0 Precautions

- 4.1 All of the high voltage supplies shall be turned off prior to entering the exclusion zone.
- 4.2 All high voltage and low voltage shall be off before plugging or unplugging high voltage and low voltage cables.
- 4.3 All connections to the panel shall be performed by personnel trained to work on the MuID steel.

## 5.0 Procedure

- 5.1 Operator shall confirm that the prerequisites above have been satisfied, especially noting that 3.1, 3.2, and 3.8 are again satisfied.
- 5.2 Apply high voltage for panel test

**Note: Unattended mode shall not be allowed for this procedure.**

- 5.2.1 Operator shall perform steps 5.2.1 to 5.2.5 of PHENIX Procedure PP-2.5.2.13-06 "Operation of the PHENIX MuID Panel Gas System in Building 1008 for Panel Testing" in order to commence gas flow.
  - 5.2.2 Operator shall allow gas to flow for 6 hours.
  - 5.2.3 Operator shall turn on the main power of the high voltage supply by using the front panel ON/OFF switch.
  - 5.2.4 Operator shall turn on low voltage supply (if required) by turning on the NIM crate in which it is located.
  - 5.2.5 Operator shall bring up the high voltage supply to the operating voltage (nominally 4500V) for all channels by flipping the enable switch and turning the high voltage setting dial on the front face of the supply.
- 5.3 Perform test
- 5.3.1 Operator shall perform preamp chain test as described in the section "Testing Installed Amplifiers" of the PHENIX MuID construction procedure documents (see section 7.0 below, available in buildings 905 and 1008).
  - 5.3.2 Operator shall perform panel count rate test as described in the "Singles Rate Test" of the PHENIX MuID construction procedure documents (see section 7.0 below, available in Buildings 905 and 1008.)
- 5.4 Shut down high voltage and low voltage
- 5.4.1 Operator shall bring down high voltage for all channels to zero by turning the high voltage setting dial on the face of the supply and then switching off the enable switch on the front of the supply.
  - 5.4.2 Operator shall turn off the high voltage power supply by turning off the ON/OFF switch on the face of the supply.
  - 5.4.3 Operator shall turn off the low voltage supply by turning off the NIM crate in which the LV supply is located.
  - 5.4.4 Operator shall wait 60 seconds for capacitors to discharge through the bleeding resistors.
  - 5.4.5 Operator shall apply shorting terminator to high voltage cable to verify release of stored energy.
  - 5.4.6 Operator shall perform steps 5.4.1 to 5.4.3 of PHENIX Procedure PP-2.5.2.13-06 "Operation of the PHENIX MuID Panel Gas System in Building 1008 for Panel Testing" in order to shut down the gas system as well.

## 6.0 Documentation

- 6.1 Documentation shall be kept in the System Operator's Notebook in Building 905.

## 7.0 References

7.1 All the PHENIX MUID construction procedure documents can be found through PHENIX MUID Factory WEB page <http://riksg01.rhic.bnl.gov/muid/>. A hardcopy of those documents are also kept in the specific work areas in building 905.