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*Approval signatures on file with master copy.

The following procedures must be followed when bleeding up different beam line sections and when returning these sections to operation (refer to Beam Line Layout Drawing):

I. FRONT END (PROCEDURE TO BE PERFORMED BY NSLS VACUUM GROUP ONLY)

A. Bleed-Up

1. Notify the Coordinator (Beeper 5824).
2. Refer to Front End Vacuum Procedures (SLS-07.19-13-1)

B. Return to Operation

1. Notify the Coordinator (Beeper 5824).
2. Refer to Front End Vacuum Procedures (SLS-07.19-13-1)

II. SECTION BETWEEN Be WINDOW 1A AND VALVE 1A, PRIMARY APERTURE

A. Bleed-Up

1. Notify the Coordinator (Beeper 5824).
2. Close and seal the Front-End High Vacuum Valve.
3. Close and seal downstream Valve 1A.
3. Coordinator places Yellow Tag on the Front-End High Vacuum Valve.
4. Slowly bleed-up with boil-off N_2 while Coordinator monitors pressure between the Front-End High Vacuum Valve and Be Window 1A.

B. Return to Operation

1. Pump to $< 1x10^{-3}$ Torr.
2. Notify the Coordinator (Beeper 5824).
3. Open Valve 1A provided pressure $< 1x\ 10^{-3}$ Torr upstream (and downstream) of valve.
4. Open the Front-End High Vacuum Valve provided pressure $< 2 \times 10^{-9}$ Torr between the Front-End High Vacuum Valve and Be Window 1A.
5. If pressure is satisfactory, Coordinator removes Yellow Tag from the Front-End High Vacuum Valve.

III. SECTION BETWEEN VALVE 1A and VALVE 2A, MONOCHROMATOR

A. Bleed-Up

1. Notify the Coordinator (Beeper 5824).
2. Close and seal Valve 1A and downstream Valve 2A.
3. Coordinator places Yellow Tag on Valve 1A.
4. Slowly bleed up while Coordinator monitors pressure between Valve 1A and Be Window 1A.

B. Return to Operation

1. Pump to $< 1 \times 10^{-3}$ Torr.
2. Notify the Coordinator (Beeper 5824).
3. Open Valve 2A provided pressure $< 1 \times 10^{-3}$ Torr downstream of the valve.
4. Open Valve 1A provided pressure $< 1 \times 10^{-3}$ Torr upstream of the valve.
5. If pressure is satisfactory, Coordinator removes Yellow Tag from Valve 1A.

IV. SECTION BETWEEN VALVE 2A and BEAM EXIT WINDOW 2A

A. Bleed-Up

1. Notify the Coordinator (Beeper 5824).
2. Close and seal Valve 2A and Valve 1A.
3. Coordinator places Yellow Tags on Valve 2A and Valve 1A.
4. Slowly bleed up while Coordinator monitors pressure between Valve 2A and Valve 1A.

B. Return to Operation

1. Pump to $< 1 \times 10^{-3}$ Torr.
2. Notify the Coordinator (Beeper 5824).
3. Open Valve 2A provided pressure $< 1 \times 10^{-3}$ Torr downstream of the valve.
4. Open Valve 1A provided pressure $< 1 \times 10^{-3}$ Torr downstream of the valve.
5. If pressure is satisfactory, Coordinator removes Yellow Tag from Valve 2A and Valve 1A.

*** NSLS POLICY FOR RGA SCANS** (24 HOUR NOTICE REQUIRED)

An RGA scan is required before returning to operation if there is a major change of hardware in the vacuum system, i.e. changing of samples, mirrors, windows, monochromator crystals or gratings, manipulators, detectors, etc., **with the following two exceptions:**

1. After UHV sample chambers have been bled up for replacing components, an RGA scan will not be required if the chamber pressure is returned to $< 2\times10^{-9}$ Torr and the Front End pressure remains $< 2\times10^{-9}$ Torr when vacuum sections upstream of the chamber are opened into the Front End.
2. If any vacuum section upstream of the bled-up section remains at a pressure of $< 9\times10^{-10}$ Torr as read using a hot-filament ion gauge, when the entire beamline is opened into the Front End, and the Front End pressure does not increase, no RGA is required.

**** NSLS TURBO PUMP POLICY**

An unprotected turbo pump is one not separated from the Front End by a beamline valve which automatically closes in the event of a power loss or a pressure increase at the turbo pump. **No unprotected turbo pump can share a contiguous vacuum with the Front End.**

Document Review Frequency	
3	Years

Review signatures on file with master copy of controlled document

NSLS REVISION LOG

Document Number:	LS-OPS-0095
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> See NSLS Quality Control Coordinator for original revision and review signatures <

REVISION TABLE

Rev	Description	Date
B	Initial release into Controlled Document System.	08/18/06