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The following procedures must be followed when bleeding up different beamline 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 1C AND VALVE 1C

This section should NOT be bled-up. If necessary, see Local Contact or Spokesperson.

III. SECTION BETWEEN VALVE 1C AND VALVE 3C or Be WINDOW 2C

**** This section should be bled up as a unit so that the monochromator turbo pump is included. ****

A. Bleed-Up

1. Notify the Coordinator (Pager 5824).
2. Close Valve 1C and Valve 4C; Valve 2C must be open. Valve 3C may be closed if not bleeding up downstream section.
3. Coordinator places yellow tag on Valve 1C control.
4. Slowly bleed-up with boil-off N_2 while Coordinator monitors pressure between Be Window 1C and Valve 1C.

B. Return to Operation

1. Pump down to $< 1 \times 10^{-5}$ Torr.
2. Notify the Coordinator (Pager 5824).
3. Open Valve 1C provided pressure $< 1 \times 10^{-5}$ Torr downstream of valve.
4. Coordinator removes yellow tag from Valve lC control.

IV. SECTION BETWEEN VALVE 2C AND VALVE 3C (MONOCHROMATOR) or Be WINDOW 2C

A. Bleed-Up

1. Notify the Coordinator (Pager 5824).
2. Close Valve 2C and Valve 4C. Close Valve 3C if not bleeding up downstream section.
3. Coordinator places yellow tag on Valve 2C control.
4. Slowly bleed-up with boil-off N_2 while Coordinator monitors pressure between Be Window lC and Valve 2C.

B. Return to Operation

1. Pump to $< 1 \times 10^{-5}$ Torr.
2. Notify the Coordinator (Pager 5824).

3. Open Valve 2C provided pressure < l x 10^{-5} Torr downstream of valve.
4. Coordinator removes yellow tag from Valve 2C control.

*** 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 < 2×10^{-9} Torr and the Front End pressure remains < 2×10^{-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 < 9×10^{-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

LIGHT SOURCES DIRECTORATE REVISION LOG

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