Section A must be completed for all configurations. In addition:

- For beam on the outboard branch to PSH7, Sections B must be completed.
- For beam on the outboard branch to PSH8, Sections B and C must be completed.
- For beam on the outboard branch to PSH9, Sections B through D must be completed.
- For beam on the outboard branch to LARIAT-2 endstation, Sections B through E must be completed.
- For beam on the outboard branch to VPPEM endstation, Sections B and F must be completed.
- For beam on the outboard branch to HAXPES station, Sections B and G must be completed.
- For beam on the inboard branch to PSH2, Section H must be completed.
- For beam on the inboard branch to PSH3, Sections H and I must be completed.
- For beam on the inboard branch to VPPEM endstation, Sections H through J must be completed.

SECTION A:
Check the following items on the roof of the FOE (7-ID-A):

- [ ] 7IDA-LBYR-01 Check roof labyrinth is secured, closed, and labeled.
- [ ] 7IDA-LBYR-02 Check roof labyrinth is secured, closed, and labeled.
- [ ] 7IDA-LBYR-03 Check roof labyrinth is secured, closed, and labeled.
- [ ] 7IDA-LBYR-04 Check roof labyrinth is secured, closed, and labeled.
- [ ] 7IDA-LBYR-05 Check roof labyrinth is secured, closed, and labeled.
- [ ] 7IDA-LBYR-06 Check roof labyrinth is secured, closed, and labeled.

Check the following inside the FOE (7-ID-A):

- [ ] 7-IDA-FAM-01 Check the flange containing the PPS aperture is in place and labeled.
- [ ] 7-IDA-MSK-01 Check mask is in place, labeled, and that cooling water is connected.
- [ ] 7-IDA-SBS-01 Check shielding is in place and labeled as per photograph.
- [ ] 7-IDA-WBS-01 Check that white beam stop is in place, labeled, and that cooling water is connected.
- [ ] 7-IDA-BSS-01 Check lead Brems. shielding is in place and labeled as per photograph.
- [ ] 7-IDA-SBS-02 Check shielding is in place and labeled as per photograph.
- [ ] 7-IDA-MSK-04 Check mask is in place, labeled, and that cooling water is connected.
- [ ] 7-IDA-MSK-02 Check mask is in place, labeled, and that cooling water is connected.
- [ ] 7-IDA-FS-02 Check cooled frame is in place, labeled, and that cooling water is connected.
7-IDA-FS-06 Check cooled frame is in place, labeled, and that cooling water is connected.

4 7-IDA-BRS-01 Check tungsten Brems. stop is in place and labeled as per photograph.
7-IDA-PSH-01 Check that photon shutter 1 is in place and labeled, and that cooling water is connected.
7-IDA-PSH-04 Check that photon shutter 4 is in place and labeled, and that cooling water is connected.

5 7-IDA-GU-01 Check that hutch guillotine is secured closed and labeled as per photograph.
7-IDA-LBYR-07 Check that PPS labyrinth is closed, secured, and labeled.

Check the following on the downstream wall of the FOE:

6 7-IDA-SBS-03 Check that shielding is in place and labeled as per photograph.
7-IDA-CLLR-01 Check that collar is in place and labeled as per photograph.
7-IDA-CLLR-02 Check that collar is in place and labeled as per photograph.

SECTION B:
Check the following in the 7-ID-1 floor area (outboard)
The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 4.

Lead Beamline Scientist (signature): ___________________________ Date: ________

7-ID1-VA-14 Check that lead shielded pipe is in place and labeled.

8 7-ID1-CLLR-01 Check that beam tube collar B1 (2 mm) is in place and labeled as per photograph.
7-ID1-SW-09 Check that pair of vacuum switches are in place and labeled, and that valve to chamber is open.
8 7-ID1-CLLR-02 Check that combined bellows and beam tube collar B2-3 (4 mm) is in place and labeled as per photograph.
7-ID1-SW-04 Check that pair of vacuum switches are in place and labeled, and that valve to chamber is open.
7-ID1-VVS-01 Check that PGM chamber which includes vacuum vessel and M2 hard stop is in place and labeled.
7-ID1-VWPT-01 Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-02 Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-03  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-04  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-05  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-06  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-07  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-08  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VWPT-09  Check that leaded viewport on M3 chamber is in place and labeled.
7-ID1-VWPT-10  Check that leaded viewport on PBS chamber is in place and labeled.
7-ID1-VWPT-12  Check that leaded viewport on Diagnostic Module 6 is in place and labeled.
7-ID1-VWPT-13  Check that leaded viewport on PGM chamber is in place and labeled.
7-ID1-VA-01  Check that pink beam stop is in place and labeled, and that cooling water is connected.
7-ID1-VA-15  Check that contiguous vacuum section between GV15 and GV16, and between GV15 and GV26 is in place and labeled.
7-ID1-CLLR-04  Check that beam tube collar B4 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-05  Check that bellows collar B5 (2 mm) is in place and labeled as per photograph.
7-ID1-CLLR-06  Check that bellows collar B6 (2 mm) is in place and labeled as per photograph.
7-ID1-CLLR-07  Check that bellows collar B7 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-09  Check that bellows collar B9 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-10  Check that bellows collar B10 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-11  Check that bellows collar B11 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-12  Check that bellows collar B12 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-13  Check that bellows collar B13 (1 mm) is in place and labeled as per photograph.
7-ID1-CLLR-14  Check that bellows collar B14 (1 mm) is in place and labeled as per photograph.
7-ID1-VA-24  Check that contiguous vacuum section between GV26 and GV27 is in place and labeled.
7-ID1-VA-25  Check that contiguous vacuum section between GV27 and PSH7 is in place and labeled.
7-ID1-VA-26  Check that contiguous vacuum section between PSH7 and PSH8 is in place and labeled.
### Subject: NSLS-II Beamline 7-ID Radiation Safety Component Checklist

<table>
<thead>
<tr>
<th>Number</th>
<th>Revision</th>
<th>Effective</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSLSII-7ID-CHK-002</td>
<td>4</td>
<td>14NOV2018</td>
<td>4 of 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-ID1-PSH-07</td>
<td>Check that photon shutter 7 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-CLLR-08</td>
<td>Check that bellows collar B8 (1 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID1-VA-16</td>
<td>Check that contiguous vacuum section between GV16 and GV17 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-CLLR-11</td>
<td>Check that bellows collar B11 (1 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID1-VA-17</td>
<td>Check that contiguous vacuum section between GV17 and GV18 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-VA-18</td>
<td>Check that contiguous vacuum section between GV18 and GV19 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-VA-19</td>
<td>Check that contiguous vacuum section between GV19 and PSH5, and GV19 and beam stop flange 7-ID-FLG-01 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-PSH-05</td>
<td>Check that photon shutter 5 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-FLG-01</td>
<td>Check that beam stop flange is in place and labeled.</td>
</tr>
</tbody>
</table>

### SECTION C:

The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 7 OR Photon Shutter 4.

**Lead Beamline Scientist (signature):** _________________________ **Date:** ________

<table>
<thead>
<tr>
<th>Component Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-ID1-VA-26</td>
<td>Check that contiguous vacuum section between PSH7 and GV 29 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID1-SW-05</td>
<td>Check that pair of vacuum switches are in place and labeled, and that valve connecting to chamber is open.</td>
</tr>
<tr>
<td>7-ID1-SW-11</td>
<td>Check that pair of vacuum switches are in place and labeled, and that valve connecting to chamber is open.</td>
</tr>
<tr>
<td>7-ID1-PSH-08</td>
<td>Check that photon shutter 8 is in place and labeled.</td>
</tr>
</tbody>
</table>

### SECTION D:

The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 8 OR Photon Shutter 7 OR Photon Shutter 4.

**Lead Beamline Scientist (signature):** _________________________ **Date:** ________
| 7-ID1-VA-28 | Check that contiguous vacuum section between PSH8 and GV 31 is in place and labeled. |
| 7-ID1-VA-29 | Check that contiguous vacuum section between GV 31 and GV 31B is in place and labeled. |
| 7-ID1-SW-06 | Check that pair of vacuum switches are in place and labeled, and that valve connecting to chamber is open. |
| 7-ID1-PSH-09 | Check that photon shutter 9 is in place and labeled. |

### SECTION E:

The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 9.

**Lead Beamline Scientist (signature):** ________________________________ **Date:** _________

| 7-ID1-VA-30 | Check that contiguous vacuum section between photon shutter 9 and the upstream flange of the LARIAT-2 endstation is in place and labeled. |
| 7-ID1-VVS-02 | Check that LARIAT-2 vacuum vessel which serves as the end of the beamline is in place and labeled. |
| 7-ID1-SW-07 | Check that pair of vacuum switches are in place and labeled, and that valve connecting to chamber is open. |

### SECTION F:

The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 6 OR Photon Shutter 4 OR Beam Stop 7-ID1-FLG-01 is in place and under configuration control.

**Lead Beamline Scientist (signature):** ________________________________ **Date:** _________

| 7-ID1-VA-21 | Check that contiguous vacuum section between GV 22 and GV 23 is in place and labeled. |
| 7-ID1-VA-22 | Check that contiguous vacuum section between GV23 and GV24 is in place and labeled. |
| 7-ID1-VA-23 | Check that contiguous vacuum section between GV24 and GV25 is in place and labeled. |
| 7-ID1-VA-12 | Check that contiguous vacuum section between GV 12 and VPPEM endstation and GV 25 and VPPEM endstation is in place and labeled. |
Subject: NSLS-II Beamline 7-ID Radiation Safety Component Checklist

Number: NSLSII-7ID-CHK-002   Revision: 4   Effective: 14NOV2018   Page: 6 of 9

☐ 7-ID2-SW-03 Check that pair of vacuum switches is in place and labeled, and that valve to chamber is open.

☐ 7-ID2-FLG-01 Check that beam stop flange is in place and labeled.

SECTION G:
The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 5 OR Photon Shutter 4.

Lead Beamline Scientist (signature): ________________________________     Date: __________

☐ 7-ID1-VA-20 Check that contiguous vacuum section between PSH5 and GV21 is in place and labeled.

☐ 7-ID2-VA-09 Check that contiguous vacuum section between GV9, GV21, and HAXPES endstation is in place and labeled.

☐ 7-ID2-SW-02 Check that pair of vacuum switches is in place and labeled, and that valve to chamber is open.

SECTION H:
Check the following in the 7-ID-2 floor area (inboard):
The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 1.

Lead Beamline Scientist (signature): ________________________________     Date: __________

15 ☐ 7-ID2-SBE-01 Check that shielded beam pipe enclosure is in place and labeled as per photograph.

15 ☐ 7-ID2-SBE-02 Check that shielded beam pipe enclosure is in place and labeled as per photograph.

14,15 ☐ 7-ID2-SBE-03 Check that shielded beam pipe enclosure is in place and labeled as per photograph.

15 ☐ 7-ID2-SBE-04 Check that shielded beam pipe enclosure is in place and labeled as per photograph.

☐ 7-ID2-VA-05 Check that lead shielded beam pipe is in place and labeled.

14,15 ☐ 7-ID2-SFE-01 Check that shielded flange enclosure is in place and labeled as per photograph.

16 ☐ 7-ID2-CLLR-20 Check that bellows collar B20 (2 mm) is in place and labeled as per photograph.
<table>
<thead>
<tr>
<th>Component ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-ID2-SW-08</td>
<td>Check that pair of vacuum switches is in place and labeled, and that valve connecting to chamber is open.</td>
</tr>
<tr>
<td>7-ID2-CLLR-21</td>
<td>Check that bellows collar B21 (2 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID2-MSK-03</td>
<td>Check that the mask is in place and labeled, and that cooling water is connected.</td>
</tr>
<tr>
<td>7-ID2-CLLR-22</td>
<td>Check that bellows collar B22 (2 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID2-VVS-01</td>
<td>Check that DCM chamber is in place and labeled.</td>
</tr>
<tr>
<td>7-ID2-VWPT-01</td>
<td>Check that leaded viewport is in place and labeled.</td>
</tr>
<tr>
<td>7-ID2-VWPT-02</td>
<td>Check that leaded viewport is in place and labeled.</td>
</tr>
<tr>
<td>7-ID2-SW-01</td>
<td>Check that pair of vacuum switches is in place and labeled, and that valve connecting to chamber is open.</td>
</tr>
<tr>
<td>7-ID2-CLLR-23</td>
<td>Check that bellows collar B23 (2 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID2-PBS-01</td>
<td>Check that pink peam stop is in place and labeled, and that cooling water is connected.</td>
</tr>
<tr>
<td>7-ID2-CLLR-24</td>
<td>Check that PBS bellows collar B24 (2 mm) is in place and labeled as per photograph.</td>
</tr>
<tr>
<td>7-ID2-VA-06</td>
<td>Check that contiguous vacuum section between GV6 and GV7 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID2-VA-07</td>
<td>Check that contiguous vacuum section between GV7 and PSH2 is in place and labeled.</td>
</tr>
<tr>
<td>7-ID2-PSH-02</td>
<td>Check that photon shutter 2 is in place and labeled.</td>
</tr>
</tbody>
</table>

**SECTION I:**

The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 2 OR Photon Shutter 1.

Lead Beamline Scientist (signature): ___________________________ Date: ________

- 7-ID2-VA-08 Check that contiguous vacuum section between PSH2 and GV9 is in place and labeled.
- 7-ID2-VA-09 Check that contiguous vacuum section between GV9 and HAXPES Station Upstream Flange is in place and labeled.
Subject: NSLS-II Beamline 7-ID Radiation Safety Component Checklist
Number: NSLSII-7ID-CHK-002 | Revision: 4 | Effective: 14NOV2018 | Page: 8 of 9

☐ 7-ID2-SW-02  Check that pair of vacuum switches is in place and labeled, and that valve to chamber is open.

☐ 7-ID2-VA-10  Check that contiguous vacuum section between HAXPES Downstream Flange and PSH3 is in place and labeled.

☐ 7-ID2-PSH-03  Check that photon shutter 3 is in place and labeled.

SECTION J:
The following section does NOT need to be verified subject to SSWP# __________ and LOTO has been applied to the Beamline Photon Shutter 3 OR Photon Shutter 2 OR Photon Shutter 1.

Lead Beamline Scientist (signature): ___________________________ Date: _________

☐ 7-ID2-VA-11  Check that contiguous vacuum section between PSH3 and GV12 is in place and labeled.

☐ 7-ID2-VA-12  Check that contiguous vacuum section between GVs 12 and 25 and VPPEM endstation is in place and labeled.

☐ 7-ID2-SW-03  Check that pair of vacuum switches is in place and labeled, and that valve to chamber is open.

☐ 7-ID2-FLG-01  Check that beam stop flange is in place and labeled.

11/16/2018

X Conan Weiland
Conan Weiland
SST Lead Beamline Scientist
Signed by: Weiland, Conan

11/16/2018

X Cherno Jaye
Cherno Jaye
SST Lead Beamline Scientist
Signed by: Jaye, Cherno

11/1

X Steven Hulbert
Steven Hulbert
Technical Authority

Inspected by

Print Name __________________________ Signature: __________________________ Date: ____________
Removal or Modification of any Device under Configuration Control Requires an Approved NSLS-II Safety System Work Permit