

Brookhaven National Laboratory/ Photon Sciences Directorate			
Subject:	<b>NSLS-II Beamline 8-BM Radiation Safety Component Checklist</b>		
Number:	PS-R-XFD-CHK-013	Revision:	2
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**Configurations must match the associated photograph located near the checkpoint when so stated in the checklist.**

**Check the following items in the FOE (8-BM-A)**

- #1  **8BMA-MSK-01**      *Check Mask1 is in place & labeled as per photograph.*
- #1  **8BMA-BRS-01**      *Check shielding is in place and labeled as per photograph.*
- #2  **8BMA-MSK-02**      *Check Mask2 is in place and labeled as per photograph.*
- #2  **8BMA-BRS-02**      *Check shielding is in place and labeled as per photograph.*
- 8BMA-LBYR-01**      *Check wall labyrinth is secured closed and labeled.*
- #3  **8BMA-GU-01**      *Check hutch guillotine is secured closed and labeled as per photograph.*

**Check the following on the roof of FOE 8-BM-A**

- 8BMA-LBYR-02**      *Check roof cable/utility access labyrinth is secured closed and labeled.*
- 8BMA-LBYR-03**      *Check roof cable/utility access labyrinth is secured closed and labeled.*
- 8BMA-LBYR-04**      *Check roof cable/utility access labyrinth is secured closed and labeled.*
- 8BMA-LBYR-05**      *Check roof cable/utility access labyrinth is secured closed and labeled.*

**Check the following on TES Beam Transport Line (Downstream of the FOE)**

**Note: Beam Transport Line from FOE to Endstation Hutch Box is under Configuration Control, including vacuum components and flanges with line of sight to beam path. Actuators, positioners, etc. that are excluded from Configuration Control are clearly demarked by arrow labels.**

**Note: Bellows 1 through 6 (inclusive) are inside the FOE and do not require shields.**

- 8BM1-VA-01**      *Check vacuum pipe is labeled and continuous from inside FOE (downstream flange of collimator2) to Bellows7.*
- #4  **8BM1-BLWS-07**      *Check Bellows Shield is installed, labeled, & bellows 7 is not overextended as per diagram.*
- #4  **8BM1-BLWS-08**      *Check Bellows Shield is installed, labeled, & bellows 8 is not overextended as per diagram.*
- 8BM1-VA-02**      *Check vacuum pipe is labeled & components are continuous & secured from Bellows7 to upstream end of transport line beampipe section 3.*
- 8BM1-VA-03**      *Check vacuum pipe is labeled & continuous from downstream end of transport line beampipe section 2 to upstream end of beampipe section 4.*
- 8BM1-VA-04**      *Check vacuum pipe is labeled & continuous from downstream end of transport line beampipe section 3 to upstream end of 5-way cross.*
- 8BM1-VWPT-01**      *Check leaded glass is in place in viewport at DCR2 and labeled.*

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- #5  **8BM1-BLWS-09** *Check Bellows Shield is installed, labeled, & bellows 9 is not overextended as per diagram.*
- 8BM1-VA-05** Check vacuum pipe is labeled & components are continuous & secured from upstream end of 5-way cross to upstream end of transport line beampipe section 6.
- 8BM1-VA-06** Check vacuum pipe is labeled & continuous from downstream end of transport line beampipe section 5 to upstream end of beampipe section 7.
- 8BM1-VA-07** Check vacuum pipe is labeled & continuous from downstream end of transport line beampipe section 6 to upstream end of second transport line ion pump.
- #6  **8BM1-BLWS-10** *Check Bellows Shield is installed, labeled, & bellows 10 is not overextended as per diagram.*
- 8BM1-VA-08** Check vacuum pipe is labeled & components are continuous & secured from upstream flange of second transport line ion pump to upstream end of transport line beampipe section 9.
- 8BM1-VA-09** Check vacuum pipe is labeled & continuous from downstream end of transport line beampipe section 8 to upstream end of vacuum cross upstream of bellows 11.
- #7  **8BM1-BLWS-11** *Check Bellows Shield is installed, labeled, & bellows 11 is not overextended as per diagram.*
- 8BM1-VWPT-02** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-03** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-04** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-05** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-06** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-07** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-08** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- 8BM1-VWPT-09** Check 2 3/4"CF leaded glass is in place in viewport at BPM and labeled.
- #8  **8BM1-BLWS-12** *Check Bellows Shield is installed, labeled, & bellows 12 is not overextended as per diagram.*
- 8BM1-PSH-01** Check photon shutter is in place and labeled.
- #9  **8BM1-BLWS-13** *Check Bellows Shield is installed, labeled, & bellows 13 is not overextended as per diagram. **Note:** Bellows shield is in two parts.*
- 8BM1-VWPT-10** Check 2 3/4"CF leaded glass is in place and labeled on SSA downstream viewport.

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- #10  **8BM1-BLWS-14** *Check Bellows Shield is installed, labeled, & bellows 14 is not overextended as per diagram.*
- 8BM1-VA-10** *Check vacuum pipe is labeled & components are continuous & secured from downstream flange of transport pipe section 9 to upstream flange of bellows 15.*
- #11  **8BM1-BLWS-15** *Check Bellows Shield is installed, labeled, & bellows is 15 not overextended as per diagram.*
- 8BM1-VWPT-11** *Check 2 3/4"CF leaded glass is in place in viewport at DG3 and labeled.*
- 8BM1-VWPT-12** *Check 2 3/4"CF leaded glass is in place in viewport at DG3 and labeled.*
- 8BM1-VWPT-13** *Check 2 3/4"CF leaded glass is in place in viewport at DG3 and labeled.*
- 8BM1-VWPT-14** *Check 1.33"CF leaded glass is in place in viewport at DG3 and labeled.*
- 8BM1-VWPT-15** *Check 1.33"CF leaded glass is in place in viewport at DG3 and labeled.*
- #12  **8BM1-BLWS-16** *Check Bellows Shield is installed, labeled, & bellows 16 is not overextended as per diagram.*
- 8BM1-VA-11** *Check vacuum pipe is labeled & components are continuous & secured from downstream flange of transport pipe section 10 to upstream flange of bellows 17.*
- 8BM1-VWPT-16** *Check 2.75"CF viewport Pb glass is in place and labeled at DS Slits.*
- 8BM1-VWPT-17** *Check 1.33"CF viewport Pb glass is in place and labeled at DS Slits.*
- #13  **8BM1-BLWS-17** *Check Bellows Shield is installed, labeled, & bellows 17 is not overextended as per diagram.*
- 8BM1-SHLF-01** *Check End Station Enclosure detector shelf is installed, secured and labeled.*
- #14  **8BM1-STP-1** *Check Beam Stop is undamaged, installed per photograph, & labeled.*

8/4/2016

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**X** Robert Chmiel

Robert Chmiel  
Safety Officer  
Signed by: Chmiel, Robert

**X** Paul Northrup

Paul Northrup  
TES Lead Beamline Scientist  
Signed by: Northrup, Paul

Inspected by

Print Name \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*\*\*\*\***      *Removal or Modification of any Device under*  
*Configuration Control Requires an Approved*      **\*\*\*\*\***  
*NSLS-II Safety System Work Permit*