U13UB SAFETY CHECKLIST				N	BROOKHAVEN NATIONAL LABORATORY ATIONAL SYNCHROTRON LIGHT SOURCE
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Prepared by: P. Marino		Reviewed by: P. Marino			Approved by: B. Chmiel

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## □ A. FRONT-END VACUUM

With mask closed, or no beam in the machine, pressure must be  $2.0 \times 10^{-9}$  or less.

## □ B. BEAMLINE ISOLATION VALVES

All beamline isolation valves (V1A/B, V2B, V3B, V4B, V5B) must be unsealed and in the open position.

## □ C. BEAMLINE INTERLOCKS

The beamline user Interlock must be in the "enable" state. This interlock is the logical And of the following states (in addition to the standard front-end pressure interlocks, etc.): "V1A/B OPEN", "V2B OPEN", "V3B OPEN", "V4B OPEN", "V5B OPEN", "4 M0/M1 Mirrors all out", and "U13UB water cooling (M0,M1, and S0) flow ok".

## D. NUMBERED CHECKPOINTS

The following checkpoints start at the Front End. The purpose of the list is to ensure that all shielding and exclusion zones are in place and secured.

□ 1. BREMSSTRALUNG SHIELDING (BS # 1 and BS #2) as per photo.

Note: Exclusion Zone (EZ#1) is located between BS#1 and BS#2)

- □ 2. EXCLUSION ZONE EZ #2 (6" diameter, extending 2.5" downstream of BS-2 and 3.5" upstream of BS #3).
- □ 3. BREMSSTRALUNG SHIELDING BS #3 (BANDED AND Photographed)
- □ 4. BREMSSTRALUNG SCATTER SHIELDING BSS-1 (In place and secured)
- □ 5. BREMSSTRALUNG SCATTER SHIELDING BSS-2 (In place and secured)
- □ 6. BREMSSTRALUNG SHIELDING BS #4 (BANDED AND Photographed
- □ 7. BREMSSTRALUNG SCATTER SHIELDING BSS-3 (In place and secured)
- □ 8. EXCLUSION ZONE EZ #3 (8" diameter, extending 12" upstream and downstream of valve V2B) located between BSS-3 shields.
- □ 9. BREMSSTRALUNG SHIELDING BS #5 (BANDED AND Photographed)
- □ 10. BREMSSTRALUNG SCATTER SHIELDING BSS-4 (In place and secured)
- □ 11. BREMSSTRALUNG SHIELDING BS #6 (BANDED AND Photographed)
- $\Box$  12. All visible light view port covers in place and secured.