| Brookhaven National Laboratory – Photon Sciences National Synchrotron Light Source  |              |                      |             |  |  |
|---|--------------|----------------------|-------------|--|--|
| Beamline Hazard Analysis - Beamline U4A   |              |                      |             |  |  |
| LS-BHA-U4A  | Revision: 03 | Effective: 9/28/2011 | Page 1 of 1 |  |  |
| The following tasks are included in the beamline safety review. Any operations not listed here, or performed by others than those listed, need additional review by ES&H personnel and/or beamline personnel. |              |                      |             |  |  |

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|              |                         |              |               |

<sup>\*</sup> Approval signatures on file with master copy

| Tasks / Equipment                                  | Performed by:     |       | Controls   |  |
|--|-------------------|-------|--|--|
| ,  | Beamline<br>Staff | Users |  |  |
| Using the LN2 Fill Station or pressurized transfer | Y                 | Y     | <ul> <li>LS-PROC-LN2FILL-MANL training for fill station</li> <li>Use full face shield along with goggles or safety glasses</li> <li>Long pants and sleeves - avoid clothing which can trap cryogens (pockets, cuffs)</li> <li>Cryogen or heavy gloves</li> <li>Enclosed shoes</li> </ul> |  |
| Liquid helium transfer                             | Y                 | Y     | <ul> <li>Use full face shield along with goggles or safety glasses</li> <li>Long pants and sleeves - avoid clothing which can trap cryogens (pockets, cuffs)</li> <li>Cryogen or heavy gloves</li> <li>Enclosed shoes</li> <li>Use guidance/checklist from PRM 5.1.0</li> </ul>          |  |
| Class 2/3a laser                                   | Υ                 | N     | Laser registration, warning signs  |  |
| Ergonomics concerns – pinch points/sharp edges     | Υ                 | Υ     | <ul><li>Warning signs</li><li>Training</li></ul>   |  |
| High temperature                                   | Υ                 | Υ     | BLOSA Training   |  |
| Working at heights                                 | Υ                 | Υ     | Be aware of body posture, training   |  |
| Visible light                                      | Y                 | Y     | <ul><li>Covers</li><li>Warning signs</li><li>Training</li></ul>  |  |
| Cutting/razor blades                               | Y                 | Υ     | <ul> <li>Be aware of hand positioning</li> <li>Use safety knife when possible</li> <li>Consider using cut resistant gloves for frequent cutting tasks</li> </ul>   |  |