BNL BERYLLIUM USE REVIEW FORM (Be metal)

CURRENT: OPERATIONS CURRENTLY BEING DONE)
Complete a separate questionnaire for each beryllium operation.

Department	(machine shop, accelerator, experiment, laboratory) National Synchrotron Light Source (Accelerator)
Use of Beryllium	(detector window, beam pipe, reaction product, stock) Beryllium metal Vacuum segregation windows, detector windows, beam filters, cryostat shields
Describe Use or Process	Only handled as an ARTICLE
Description of Operation/Handling Procedure	1. Used to segment vacuum sections on NSLS beamlines or terminate beamline vacuum; mounted by beamline and Mechanical Section personnel (may be 1-5 windows/beamline spread over >85 X-ray beamlines, in vacuum). Windows are also used to filter low energies out of the synchrotron beam. 2. Vacuum Group (see Walter DeBoer below) does in-vacuum baking of Be windows to remove surface oil residues (may just handle assembly and not Be window directly). 3. Be windows are used on some detectors. 4. Be "shields" are used on cryostats.
Physical State of Be Amount Used	Solid (as sheet for windows, covers) N.A. - gm/mo

Building: 725 535C (basement)	Room: X-ray experimental floor (in use, in storage) Room 2-190E (storage) Room 2-198 (storage) Vacuum Group (windows; storage) Crystal Cutting Room (X-ray tube window)
Frequency of Use	In continuous use

Engineering Controls:	Describe: no machining or brazing is allowed at NSLS or BNL; most materials and assemblies are purchased from outside vendors; some windows may be installed at the NSLS in flanges using lead wire gaskets.
Personal Protective Equipment	Gloves: Impervious
	Clothing: Lab Coat (sometimes)
	Respirator: Used only for certain cleanups; None for simple handling
	Frequency: Occasional
Users (with life number or Job Title)	Name & Status (Current Employee)
	Current (techs and scientists): Tony Lenhard, Rick Greene, Gary Nintzel, Dennis Carlson, Shu Cheung, Peter Siddons, Syed Khalid, Lonny Berman, Steve Ehrlich, Walter DeBoer, Mike Caruso, Pete DeToll, Richard Freudenberg, Chris Lanni, Mel Tard, Conrad Foerster, Bob Scheuerer, Sorin Pop, Bill Bambina, Rodger Hubbard, Nicholas Gmur, Gerry Vanderlaske; many beamline technicians and scientists associated with other institutions work with Be windows and shields (example = Mike Sullivan of X9/X29).
Emergency Response Scenario [Describe likely event(s)]	1) Fracture of Be window due to pressure changes; could result in distribution of small window fragments over adjacent areas. 2) Reaction of Be with synchrotron beam, water and/or air resulting in penetration of window with a limited and localized quantity of BeO powder formed.

Written Documentation and Emergency Response	NSLS PRM 6.3.0 "Beryllium Management" outlines the NSLS beryllium program, including: ▪ Responsibilities ▪ Work Control Requirements Storage and Handling Damaged Articles Oxidized Articles ▪ Training ▪ Wastes BNL Industrial Health staff is contacted to conduct surface and air monitoring as necessary. Guidance is also provided to staff in NSLS ESH Highlight No. 16 "Beryllium - Know What You have and Take Care Of It" as well as in the Facility Specific Safety Orientation training module ("Beryllium").
Pollution Prevention Plan	N.A. No machining.
End of Project Plan	End-of-Project Plan would involve dealing with any remaining beryllium as a waste as described in NSLS PRM 6.3.0.

Person Completing the Questionnaire

Name: Nicholas F. Gmür	Phone: 631-344-2490
Date: May 16, 2003	Mail Building: 725C