

Bliss & Laughlin Steel Special Exposure Cohort Petition SEC-00230

James W. Neton, PhD, CHP

Associate Director for Science

NIOSH Division of Compensation Analysis and Support

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Background

- 129,000 ft² building, 110 Hopkins Street, Lackawanna, NY
- Machined Uranium rods for Atomic Energy Commission (AEC), 1951-52
- All work in 3,230 ft² Special Finishing Area
 - Residual contamination found when surveyed in 1992
 - All other building locations found to be uncontaminated
- Added to Formerly Utilized Sites Remedial Action Program (FUSRAP)
- Surveyed again in 1995 by FUSRAP, remediated from December 1998-March 1999

Background – continued

- First Special Exposure Cohort (SEC) petition evaluated 2009
 - Operational Period (1951-52) and residual period (1953-98)
 - Evaluated “all workers for all of operational and residual periods”
 - Finding – NIOSH could estimate radiation doses with sufficient accuracy for the evaluated class of workers
 - Board recommended not to add classes, Secretary of Department of Health and Human Services agreed, denied class on June 3, 2011
 - Research showed remediation continued into 1999
- Residual Period redefined, 1953-99

For information about first SEC petition SEC00131 visit: <http://www.cdc.gov/niosh/ocas/blsteel.html>

Evaluation of Petition

- Petition SEC-00230 received on March 1, 2016 for a class of:
All employees of the Bliss & Laughlin Steel Company located at 110 Hopkins Street, Buffalo, New York, during the period from January 1, 1951 through January 31, 1999.
- Class evaluated was:
All atomic weapons employees who worked in any area at the Bliss & Laughlin Steel site in Buffalo, New York, during the period from January 1, 1999 through December 31, 1999.
- Allowed for evaluation of 1999, the period added to the site's residual period after the evaluation of SEC-00131.

Bliss & Laughlin Claims as of June, 2016

Description	Totals
- Number of claims submitted for dose reconstruction	54
- Total number of submitted for energy employees who worked during the period under evaluation (January 1, 1999 through December 31, 1999)	10
- Number of dose reconstructions completed for energy employees who worked during the period under evaluation (i.e., the number of such claims completed by NIOSH and submitted to the Department of Labor for final approval).	9
- Number of claims for which internal dosimetry records were obtained for the identified years in the evaluated class definition	0
- Number of claims for which external dosimetry records were obtained for the identified years in the evaluated class definition	0

FUSRAP Remediation

- Performed by US Army Corps of Engineers contractor personnel only
- Scheduled on weekends
- Started December 19, 1998 and completed March 17, 1999
- Remediated Special Finishing Area
- Air Monitoring
 - Conducted prior to, during, and after work activities
 - Samplers adjacent to Special Finishing Area to monitor plant worker exposures
 - FUSRAP Closure Report stated “No exposures” for plant workers

Remediation Activities, 1998

- Overhead Steel Trusses
 - Weekend of December 18-19, 1998
 - Nearby plant equipment was covered
 - Trusses were HEPA vacuumed and wiped with masslinn cloth
 - Confirmation survey on March 14, 1999

Remediation Activities, 1999

- Floor of Special Finishing Area
 - Weekend of January 9 to 10, 1999
 - Work performed inside enclosure with HEPA filtration
 - Scabbling along with a HEPA Vacuum to remove dust and debris
 - Resurveyed in March 1999, additional scabbling for areas adjacent to trench
- Trench in Floor
 - Began January 2, 1999, completed March 13, 1999
 - Work performed inside enclosure with HEPA filtration
 - Scabbled and jackhammered along with HEPA Vacuum for dust and debris
 - Confirmation surveys in March 1999, filled with concrete April 1999
- Approximately 60 cu. yd. “presumed contaminated material” shipped offsite for burial

Feasibility Determination

- Based on the information provided
 - Covered Employees were not present for the remediation activities
 - Operations were conducted in hoods with HEPA filtration
 - Air sampling was performed on boundaries with no elevated readings
- NIOSH concludes exposures for this period would not be any higher than the previous evaluated 1990 period
- Dose reconstruction is feasible

Bounding Methods in Bliss & Laughlin TBD

Site Profiles for Atomic Weapons Employers that Worked Uranium Metals, Appendix D, Bliss and Laughlin Steel, Battelle-TBD-6000, Appendix D; Rev. 0

- 1953 through 1990 inhalation exposures
 - Based on estimated work contamination in 1953 and highest removable alpha activity found in 1992 survey, 430 dpm/100 cm²
 - Derived contamination depletion factor of 1.88E-4 per day
- 1990 through 1998 inhalation exposures
 - No further reduction in contamination assumed after 1990; same estimates applied for each year

Bounding Methods 1999, Internal Exposures

- Extend TBD methods for 1998 through 1999
- Assumes
 - Entire area at 430 dpm/100 cm² removable alpha cont.
 - 1E-6 resuspension factor
 - 8.0 hour workday
- 2.88E-1 dpm/day inhalation; (Table D.1, Battelle-TBD-6000, Appendix D)
- 1.1 dpm per day ingestion based on initial air concentration and source-term depletion rate

Bounding Methods 1999, External Exposures

- Beta/gamma survey in 1995 of entire “special finishing area”
 - 733 measurements using a “5 point method”
 - 50th percentile of 489 dpm/100 cm²
 - 95th percentile of 1731 dpm/100 cm²
 - Ten hot spots detected – highest was 280,000 dpm/100 cm²
- Beta exposure
 - Dose conversion factor of 3.82E-08 mrad/hour per dpm of alpha/m² (Batelle-TBD-6000)
 - 3.7 mrad/year at the 50th percentile
 - 13.2 mrad/year at the 95th percentile
- Photon Exposure
 - 0.04 mrem/year at the 50th percentile
 - 0.14 mrem/year at the 95th percentile

Summary

**Feasibility Findings for SEC-00230 – Bliss and Laughlin Steel
Lackawanna, New York
(January 1, 1999 through December 31, 1999.)**

Exposure Source	Reconstruction Feasible	Reconstruction Not Feasible
Internal - Uranium	X	
External	X	
Gamma	X	
Beta	X	
Neutron	N/A	
Occup. Medical X-rays	X	