

# **General Steel Industries (GSI) Special Exposure Cohort**

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# GSI Uranium Airborne

- **Performed radiography examinations of uranium metal using betatrons**
- **No correction of defects or other manipulation of uranium metal was reported**
- **Potential airborne from uranium corrosion products**
- **Used surrogate data to define airborne**
- **Data reviewed against surrogate data criteria**

# Airborne from Uranium Metal

- Airborne data from handling cold uranium metal very limited
- Most work with uranium metal involves heating which greatly increases oxidation rate
- Machining does not require heating but does create heat routinely causing smoke from machining or chip fires.
- Applicable surrogate data limited due to other, greater sources of airborne in the vicinity

# Heald Machine Company

- Machined uranium slugs
- Samples while machining slugs
- No samples while handling cold dry metal
- If handling caused high airborne, some should remain in area while other samples were taken
- Highest sample, 11 dpm/m<sup>3</sup>

# Chambersburg Engineering

- Forged hot uranium slugs
- Maximum airborne 174 dpm/m<sup>3</sup> while loading cold slugs into furnace
- Work included removing hot slug from furnace and taking them to impactor 7 feet away
- Interference from forging hot uranium 7 feet away likely interfered with cold handling samples

# Leblond

- **Work involved boring a hole in uranium billets**
- **Three BZ samples taken while hooking hoist to billets and placing them into position**
- **Maximum air sample for moving billets was 9 dpm/m<sup>3</sup>**

# GSI Appendix BB

- Appendix BB currently uses 198 dpm/m<sup>3</sup>
- Value from TBD-6000 slug production
- Intended to be bounding since all tasks in TBD-6000 include handling cold uranium metal at some point
- Review of surrogate data criteria indicated slug production not representative of work at GSI
- NIOSH currently looking for additional representative samples