OSHA Respirable Crystalline Silica Standard

Housekeeping
Housekeeping

- When it can contribute to exposure, employers must not allow:
  - Dry sweeping or brushing
  - Use of compressed air for cleaning surfaces or clothing, unless it is used with ventilation to capture the dust
- Those methods can be used if no other methods like HEPA vacuums, wet sweeping, or use of ventilation with compressed air are feasible
Compressed Air for cleaning is NOT allowed.
Compressed Air

• Compressed air for cleaning is prohibited
  • Disperses dust; does not collect it
  • Unless HEPA vacuuming or wet methods are not feasible

• Compressed air for process use is allowed.
  • Cleaning a pattern between cycles is a process use
  • Cleaning the floor is not

• Combination compressed air and exhaust ventilation is permitted if exhaust is capable of containment
Sweeper Options:
“where it contributes to exposure”

• Must use HEPA vacuuming or wet sweeping if feasible
• Floor sweepers
  • Wet sweepers may be incompatible with molten metal
  • Can generate dust if vacuum is not balanced or if floor is cracked or uneven
  • Skirts should be used with side brushes
• Dry sweepers may be permitted if it can be shown that they reduce the overall dust exposure by removing more RCS than they generate (research proposal)
• Documented Feasibility may be key to using sweepers
Sweepers may generate dust under some conditions
Dust buildup may increase RCS exposure if not removed regularly
Vacuums for Sand: cannot cover as much area as powered sweepers
Housekeeping Issues

- Compressed air for Process use OK vs. Housekeeping NO
- Can it contribute to exposure?
- How to deal with wet or sticky material
- How to cover wide areas, heavy loading
- Molten metal
- Environmental conditions (e.g. ice)
- Hazardous waste
- Is hazard greater if you do not sweep?
Although OSHA is allowing for dry sweeping and dry brushing and the use of compressed air for cleaning clothing and surfaces under these limited circumstances, the Agency anticipates that these circumstances will be extremely limited. The “unless” clause indicates that the employer bears the burden of showing that wet methods are not feasible in a particular situation, and OSHA expects that the vast majority of operations will use wet methods that minimize the likelihood of exposure. Where the employer uses dry sweeping, therefore, the employer must be able to demonstrate that HEPA-filtered vacuuming, wet methods, or other methods that minimize the likelihood or exposure are not feasible. Similarly, where compressed air is used to clean clothing and surfaces without a ventilation system designed to capture the dust cloud created, the employer must be able to demonstrate that no alternative cleaning method is feasible.

The Burden is on the employer!

Silica standard preamble
81 FR 16796
What about Deep Cleaning?

• OSHA feasibility analysis assumed deep cleaning (removing dust from rafters and other difficult surfaces) one or two times per year.
• Deep cleaning usually requires shut down
• Similar to combustible dust cleaning service
Preventing Dust is Better than Cleaning
Prevent Leaks in Sand Transport Systems
Minimize and Repair Abrasive Blast Leaks
Minimize sand build up and spillage

• Basement

• Molding sand tower
Actions To Take Now

1. Think dust avoidance, not just cleaning.
2. Document compressed air needs
   - Process related requirements
3. Investigate HEPA vacuum use
   - Document issues and problems and costs
4. Document sweeper feasibility
   - Work with sweeper suppliers to clarify OSHA acceptance
   - Document problem areas where wet sweeping and vacuuming are problems