OSHA Enforcement and Boot Pits – Where are we?

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OSHA’s Treatment of Boot Pits

- Some OSHA Area Offices treat boot pits as “automatic” permit-required confined spaces
  - Theory seemed to be: “Potential” for atmospheric hazard (H2S, oxygen deficiency, CO) always exists
  - No good deed goes unpunished: If employer voluntarily tests boot pit atmosphere, the boot pit must be a PRCS
NGFA’s Response

- Play offense
  - Sweep auger situation took on a life of its own
  - Smithpeter letters were a surprise
  - OSHA keep issuing additional guidance claiming that use of sweep augers while employees were in bin violated Section 1910.272(g) or (h)
NGFA’s Response

- Sweep auger issue now resolved, and OSHA will issue new guidance confirming that employees can be in the bin
- For boot pits
  - Do not wait for OSHA guidance
  - Develop NGFA guidance on how to assess boot pits
  - Let OSHA tell us why our method of evaluating is insufficient
NGFA’s Response

- Guidance document for grain handling employers on how to determine whether boot pits are PRCSs
  - Issued September 2013
  - Modeled on OSHA’s eLaws Confined Space Advisor, OSHA guidance and the rulemaking record
OSHA’s PRCS Standard

- For the standard to apply, the space must:
  - Meet the definition of a “confined space”; AND
  - Have a characteristic that makes it a “permit space”

- Types of boot pits – many!
  - Below grade or above
  - May or may not be in priority housekeeping area
  - Different types of ventilation/equipment
OSHA’s PRCS Standard

■ What is a “confined space”?
  ● Is not designed for continuous human occupancy
  ● Has limited or restricted means for entry/exit
    AND
  ● Is large enough so employee can enter and perform work

■ Must meet all three criteria
Is a Boot Pit a Confined Space?

- Is large enough and so configured that an employee can work in it? **YES**
  - Employees enter to perform maintenance
  - For some boot pits, employees *must* enter because they are priority housekeeping areas (floor areas inside 35 feet of inside bucket elevators – fugitive dust over 1/8 of an inch must be removed immediately)
Is a Boot Pit a Confined Space?

- Has limited or restricted means for entry or exit? **MAYBE**
  - Standard-sized door?
  - Ladder, articulated steps, or something different than regular stairs?
  - Crawl through or around equipment?
  - Tunnels? (OSHA guidance on this unclear)

- Main issue: Anything that would prevent the employee from escaping easily?
Is a Boot Pit a Confined Space?

- Not designed for continuous human occupancy? **THIS FACTOR OFTEN NOT MET**
  - “Intended as a regular place of work and supplied with ventilation and other conditions necessary to support life”
  - Critical factor is if employee can work in the space, not the primary use of the space
  - OSHA Example: Primary purpose of telecommunications vault doesn’t matter; issue is whether employees can work in the space
Is a Boot Pit a Confined Space?

- Key distinction between typical boot pit and other types of spaces: No operational adjustments need to be made when entering a boot pit
  - Entering a grain bin: isolate or empty the bin
  - Entering a boot pit: enter under normal operating conditions and start working
- Boot pits generally are designed for continuous human occupancy
Is a Boot Pit a PRCS?

- Assuming a boot pit is a confined space, is it a PRCS?
- Must have *one* of the following:
  - Contains or potential to contain hazardous atmosphere
  - Potential for engulfment
  - Internal configuration that could trap employee
  - “Any other recognized safety or health hazard”
Is a Boot Pit a PRCS?

■ “Hazardous atmosphere”
  ● Flammable in excess of 10% of LFL
  ● Airborne combustible dust at LEL
  ● O2 below 19.5% or above 23.5%
  ● Any other atmospheric hazard that is immediately dangerous to life and health
Is a Boot Pit a PRCS?

- When is there the “potential” for a hazardous atmosphere”? This is often where the conflict is

- OSHA guidance:
  - “Some spaces may develop a hazardous atmosphere under certain conditions”
  - Example: Space with normal atmosphere may contain CO if particular types of work are done around or adjacent to the space
Is a Boot Pit a PRCS?

- Potential hazardous atmosphere must be realistic
  - CO can accumulate in a basement if the furnace malfunctions
  - The basement is not automatically a PRCS because it has a furnace

- Example: Boot pit is not automatically a PRCS because it is conceivable that water could mix with grain/dust to form H2S
Is a Boot Pit a PRCS?

- Hydrogen sulfide
  - OSHA seems to believe that there is always the potential for H2S because water *could* mix with grain/dust, rot and then emit H2S

- Factors
  - How often is boot pit cleaned?
  - Is it water tight?
  - Bottom line: H2S will only form in unusual, remote situations
Is a Boot Pit a PRCS?

- Hazardous atmosphere must be “immediately dangerous to life and health”
  - High enough to cause “death, incapacitation, impairment of ability to self-rescue, injury or acute illness”
  - H2S example: PEL is 20 parts per million; IDLH is 100 parts per million
  - Space must have or have the potential to have 100 parts per million
Is a Boot Pit a PRCS?

- Carbon dioxide
  - Certain grains under specific conditions can give off carbon dioxide
  - Is there a realistic probability that an IDLH atmosphere of carbon dioxide will form in a boot pit?
  - What kind of ventilation system is in the boot pit?
  - More potential in a grain bin than in a boot pit
Is a Boot Pit a PRCS?

- Oxygen deficiency/carbon monoxide
  - Is there a path for CO from idling trucks to enter the boot pit?
  - Does the facility require trucks to be turned off during unloading?
Is a Boot Pit a PRCS?

- Combustible dust in a boot pit
  - Under normal conditions, not enough dust to exceed the LEL
  - Upset conditions (inspection door left open; plugged or choked leg that must be emptied) – amount of dust typically would not exceed the LEL if it becomes airborne
  - Electrical classification may also be a factor
Is a Boot Pit a PRCS?

- “Other recognized safety and health hazards”
  - Physical hazards like moving equipment, electrical hazards, snakes/rodents, poor visibility
  - Under normal conditions, these hazards will not be present
How are Grain Bins Different?

- Section 1910.272(g) (bins) and (h) (flat storage structures) apply to entries
- 1910.272(g): test atmosphere if “reason to believe” there may be hazards
  - Wet grain
  - Fumigants
  - Some kind of upset condition
Why Voluntarily Perform Air Monitoring?

- At the request of an OSHA Area Office
- In unique situations where there could be a hazard
- As a practice exercise for employees
- Voluntary monitoring does not “convert” a boot pit into a PRCS – the definition is either met or it is not
Status of the Guidance

- NGFA met with OSHA on September 12, 2013
- OSHA asked a number of questions about boot pits, including atmospheric conditions
- Did not point out any flaws in the evaluation process set forth in the document
- Fairly non-committal – OSHA will continue to evaluate status on a case-by-case basis
Questions??

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