

ANSI Z-390 - Accepted Practices for Hydrogen Sulfide Safety Training Programs

Standard Update
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2016 OSHA Oil and Gas Conference

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ANSI Z-390 Hydrogen Sulfide Training Requirements

- Committee formed in January 1, 1993 by Frank Perry, CSP
- Little changed since initial adoption
- Last formal revision 2006
- Latest revision in comprehensive
 - User friendly
 - Less prescriptive
 - Tackles changing exposures



Committee Priorities

- ***Protect the safety and health of workers***
- Minimize the burden on industry to the extent possible
- When in conflict, default to protecting workers



Why Revision?

- References to obsolete instructional technology and resources
- Presentation format not flexible
- Required presentation of material that wasn't pertinent to most workers
- Structure of document needed improvement
- Unease with Visitor Training
- Unease with abbreviated refresher
- ACGIH Revision of TLV[®]-TWA to 1 PPM



Obsolete Technology / Resources

- 1994 – VHS, Overheads, etc.
- 2016 – Internet, Online Meetings, PPT
- Some referenced videos no longer available



Presentation Format Not Flexible

- 1994 – Paradigm classroom – lecture
- 2016 – Flexible open to partial remote instruction (not applicable to SCBA training)



Presentation of Non-Pertinent Info

- 1994 – extremely comprehensive H₂S info presented to all students
- 2016 – students must be presented with info to assure their safety
- Potentially optional info:
 - Dispersion models
 - Transportation of H₂S Cargos
 - Emerging Technology



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Structure of Document

- Changed to single column format
- Eliminated redundant material
- Collected similar information
- Eliminated material that seemed to be more appropriate to a H₂S safety standard
- Eliminated dated references
- Improved logical flow of the paragraph structure



Visitor Training

- Visitor training eliminated as a abbreviated course
- Visitors must receive the full worker training program
- You're either exposed or you're not.....and the beard as to go!
- *This is the one area of the revision that is significantly stricter*



Refresher Training

- Required Annually
- Full course must be presented, information and hands-on
- Recognizes that a refresher course could be somewhat shorter with experienced students



ACGIH TLV[®]-TWA

- Key driver in need to revise standard
- H₂S ACGIH TLV[®]-TWA changed from 10 PPM to 1 PPM
- Generally, industry and safety professionals consider 1 PPM to be excessively low
- The Z390 Committee formally commented to ACGIH and expressed concern



ACGIH TLV[®]-TWA

- Initially committee consider adopting 1 PPM
- Decided to allow instructors/companies to determine safe “Occupational Exposure Levels” taught based on:
 - Company requirements and safety professionals
 - Regulations (OSHA, EPA, TX RRC #36, etc.)
 - Consensus Standards (API, ANSI, ACGIH, NIOSH, etc.)



Occupational Exposure Limit (OEL):

- A health-based workplace standard to protect workers from adverse exposure (e.g., PELs, TLVs[®], RELs, WEELs, etc.) adopted by the employer or facility owner
- OELs are not trigger points
- They are guidelines designed for use by industrial hygienists in making decisions regarding safe levels of exposure
- EHS professionals should note that OELs are only one factors to be considered in evaluating specific workplace hazards
 - Reference (ACGIH)



References

- DiNardi, S. R., & American Industrial Hygiene Association. (2003). *The occupational environment: Its evaluation, control, and management*. Fairfax, VA: AIHA Press (American Industrial Hygiene Association).
- TLV/BEI Policy Statement. (n.d.). Retrieved from <http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-policy-statement>
- **OSHA** - General Duty Clause SEC. 5. Duties (a)(1)
- **API RP 49**- Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide.
- **API 55** - Recommended practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide
- **BLM** - Onshore Oil and Gas Order No. 6, Hydrogen Sulfide Operations
- **Railroad Commission of Texas Statewide Rule 36** - Hydrogen Sulfide Safety



Questions?

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