Taking the Fear Out of OSHA for Business Aviation

Andreas Bentz, Chantilly Air, Inc.

Las Vegas, NV | October 10, 2011
Limitations on Andreas’s Liability

Hey, so I did what you said I should do, but …

• … I still had someone drink Jet-A/fall into the fuel tank/etc.
  – OSHA realizes that there is unpreventable employee misconduct:
    • Establish policy.
    • Train when and where to follow the rule.
    • Have and use a disciplinary program.
    • Periodically inspect.
• … I still got cited by OSHA.
  – Andreas does not work for OSHA.
    • Andreas is telling you about his experience with OSHA.
    • Andreas has had the OSHA 30-hour training.
• Nothing is Andreas’s fault (or Chantilly Air’s, or NBAA’s).
Mission Statement
What good will this session do me?

• Put the fear of OSHA in you.
  – Never mind the catchy title. There’s (almost) no way around OSHA.
• Show you how easy compliance with OSHA standards is.
• Help you identify the major OSHA standards.
  – There are not many.
• Give you some useful tips for OSHA compliance.
  – Actually, useful and cheap.
Occupational Safety and Health
Why care? … and some general things.
OSHA Requirements

Why worry about OSHA?

• **IS-BAO (2011) Standard 13.0 Occupational Health and Safety**
  - “An operator is responsible for identifying and complying with all national and local occupational health and safety laws and requirements …”

• **Certified Aviation Manager**
  - Questions on the CAM exam. (No, I can’t tell you which ones.)

• **It’s the law!**
  - OSH Act (1970)
  - OSHA standards apply to private sector (and, since 1980, federal) employers with one or more employees.
    • Are state employers off the hook? Not if there is a state OSHA.
Regulations
A Quick Look at 29 CFR 1903, 1904, 1910

• 29 CFR 1903 requires display of the “Job Safety and Health – It’s the Law” poster.
  – Download and print.
  • Size: at least 8½” x 14”.
  – Order from OSHA.
  – Do you need a state OSHA poster?

• Inform employees about OSHA.
• Make OSHA standards available to employees.

http://osha.gov/Publications/osha3165.pdf
Regulations
A Quick Look at 29 CFR 1903, 1904, 1910

- 29 CFR 1904 requires certain record-keeping (more later).
Regulations
A Quick Look at 29 CFR 1903, 1904, 1910

• 29 CFR 1910 is the standard for General Industry.
  – There are others: Construction (1926), Shipyards (1915), etc.
• Exactly what industry are we in?
  – North American Industry Classification System (NAICS). Examples:
    • 481211 Nonscheduled air passenger transportation
      – Old Standard Industrial Classification (SIC) code 4522.
    • 488190 Other Support Activities for Air Transportation
      – Old SIC code 4581.
  – Why care?
    • Data and statistics: most frequent injuries, most frequently cited violations.

http://www.census.gov/eos/www/naics/index.html
http://www.osha.gov/oshstats/index.html
OSHA Standards

A quick tour
Walking-Working Surfaces
Subpart B (1910.21 – 1910.30)

• Slips, Trips, and Falls:
  – In 2010, in NAICS “Support Activities for Air Transportation”, there were 14 fatalities ... of which three were falls.

• Good housekeeping: clean, dry floors, clear passageways.
Walking-Working Surfaces
Subpart B (1910.21 – 1910.30)

• Open-sided floors 4 feet or higher must have fall protection:
  – Rail (top rail 42” above floor; mid rail 21” above floor).
  – Personal fall arrest system (proposed rule).

• Ladder safety (number one cause of fatalities in construction):
  – Standards (e.g. rated for single-user, 200 lbs: Type 1 or 1A).
  – Good idea: training (4-to-1 rule, belt-buckle rule, etc.).
Exit Routes and Emergency Planning

• Exit routes consist of:
  – Exit access …
    • Unobstructed.
    • Lighted.
    • Minimum width 28”, some building codes require more.
  – … which lead to an exit …
    • Unlocked (except mental, penal, correctional facilities).
    • Illuminated “EXIT” sign, min. 6” letters).
  – … which leads to an exit discharge.
    • Must lead directly outside.

• If you comply with NFPA 101-2000, you’re covered!
Exit Routes and Emergency Planning

- Emergency Action Plan.
  - You must have one. (If you have an SMS, you probably already do.)
    - If you have 10 or fewer employees, it need not be written.
  - Elements:
    - Reporting a fire or other emergency (toxic chemical releases, hurricanes, tornadoes, blizzards, floods, etc.)
    - Emergency evacuation (floor plans, maps) or shelter in place.
    - Critical plant operations (if you have any).
    - Accounting for all employees after evacuation.
    - Procedures for employees performing rescue or medical duties.
    - Contact details for information about the plan.

- Remember: training!
Fire Protection
Subpart L (1910.155 – 1910.165)

- Portable fire extinguishers:
  - Appropriate to the class of fire:
  - Maintained and inspected:
    - Monthly visual inspection—anybody can.
      - Mounted, unobstructed? (30 inches clear space).
      - Charged, pin safety-wired, and … shake it, baby!
      - Document.
    - Annual maintenance.
    - Hydrostatic testing depending on agent.
Medical and First Aid
Subpart K (1910.151)

• If serious work-related injuries are possible, you must be able to provide first aid within 3 – 4 minutes.
  – Exception: workplaces where serious work-related injuries are unlikely (e.g. office): 15 minutes.

• In most cases this means you need to have employees trained in first aid and CPR on site any time work is being done.
  – This now means that you have employees who have an occupational exposure to potential bloodborne pathogens. More on bloodborne pathogens later (requires written program).
  – Training: initial and recurrent (two-year requirement).
Medical and First Aid
Subpart K (1910.151)

• If there is the possibility of exposure to corrosive materials, you also need a means of flushing skin or eyes, for a minimum of 15 minutes (at 30 psi).
  – Emergency shower.
  – Eyewash station.
• Check these annually, activate them weekly (ANSI Z358.1).
Toxic and Hazardous Substances
Subpart Z (1910.1000 – 1910.1450)

• Bloodborne Pathogens (occupational exposure to blood or other potentially infectious materials).
  – Hepatitis B (30%), Hepatitis C (3-5%), HIV (0.03%).
    • What about lav service?
  – Bloodborne pathogens exposure control plan. (You must have one.)
  – Training: annual recurrent training (by “qualified” trainer).
  – Invest in some PPE: gloves, gowns, masks, eye-protection, resuscitation devices; biohazard bags.
  – You must offer free Hepatitis B vaccinations to employees.
    • They may decline – get a signed Hepatitis B Vaccination Declination Statement (1910.1030 Appendix A).
Toxic and Hazardous Substances
Subpart Z (1910.1000 – 1910.1450)

• **Written hazard communication program** ("worker right to know").
  – You must have one. (OSHA tips in Appendix E of the standard.)
  – Hazardous chemical inventory.
    • Keep for duration of employment plus 30 years.
  – Labels and warnings (substance identity and hazard warnings).
    • Exception: portable secondary containers for immediate use by the employee who performs the transfer.
    • Labels must not be defaced.
  – Material Safety Data Sheets (MSDSs).
    • Must be readily accessible (no barriers to immediate access).
  – Information about hazardous substances and training.
Occup. Health/Environmental Control
Subpart G (1910.94 – 1910.98)

- Noise exposure.
  - 8-hour time-weighted average greater than 85 dB(A):
    • Hearing conservation program (annual audiometric testing, offer hearing protection, give training)
  - 8-hour time-weighted average greater than 90 dB(A):
    • Engineering controls or mandatory hearing protection.
- How do you know?
  - Noise sampling by your workers’ compensation insurance provider.
- More on hearing protection (personal protective equipment) later.
Occup. Health/Environmental Control

Subpart G (1910.94 – 1910.98)

- Examples (noise levels):
  - Normal conversation (3-5’) 70 dB
  - Driving Diesel-powered aircraft tug 84 dB
  - Sustained exposure may result in hearing loss 90 dB
  - Rivet gun on sheet metal 102 dB
  - Marshalling Lear 60 105 dB
  - Pressurization test equipment (compressor) 110 dB
  - Disconnecting GPU from Lear 60 114 dB
  - Short term exposure can cause permanent damage 140 dB
Materials Handling and Storage
Subpart N (1910.176 – 1910.184)

- Powered Industrial Trucks (PIT).
  - Mobile, power-driven (electric or internal combustion engine) vehicle used to carry, push, pull, lift, stack or tier material.
    - Mostly OSHA thinks “forklifts” (stability).
  - Training and evaluation program. (You must have one.)
    - The standard specifies what must be included:
      - Truck-specific and workplace-specific topics.
    - Refresher training and evaluation when:
      - Unsafe.
      - Accident/near-miss.
      - Differences training (different type of PIT).
      - Changes in workplace.
Hazardous Materials
Subpart H (1910.101 – 1910.126)

- Compressed gasses:
  - Storage: grouped by hazard class (e.g. combustible and oxidizer), upright, secured, in a designated area.
  - Other good housekeeping (handling and use).
- Flammable “Class I” (flashpoint below 100F) and combustible “Class II, Class III” (flashpoint above 100F) liquids:
  - Containers:
    • Maximum allowable container size depends on flammability.
  - Storage cabinets:
    • Maximum capacity of storage cabinet: 60 gallons (Class I and II), 120 gallons (Class III).
Machinery and Machine Guarding

Subpart O (1910.211 – 1910.219)

• All machinery must be appropriately guarded.
  – “Appropriate” – can you reach:
    • Around …
    • Under …
    • Through …
    • Over …
  – … an existing guard? Then it’s not appropriately guarded.
    • The standard has lots of detail.
      – Examples.
Machinery and Machine Guarding
Subpart O (1910.211 – 1910.219)

• Examples:
  – Grinder (“abrasive wheel machinery”):
    • Must do a “ring test” of the grinding wheel (check for cracks).
    • Tongue guard: 1/4”.
    • Work rest: 1/8”.
    • Anchored to floor or platform the user stands on.
  – Fan blades:
    • Maximum opening: 1/8”.
      – Check what your employees bring to work!
Electrical

Subpart S (1910.301 – 1910.399)

• Electrical equipment must be grounded.
  – Check what your employees bring to work!
• Disconnecting means (e.g. circuit breaker) clear space:
  – 15 inches either side, 3 feet out from the face of the breaker.
• Flexible cords: check for damage!
• Extension cords:
  – Cannot be used as a substitute for fixed wiring (temporary use only).
  – Only in continuous lengths.
General Environmental Controls
Subpart J (1910.141 – 1910.147)

• Permit-required confined spaces.
  – Contains/potential to contain hazardous atmosphere (fuel tank).
  – Contains material that has the potential for engulfing an entrant (grain silo);
  – Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
  – Contains any other recognized serious safety or health hazard.

• If you have permit-required confined spaces, you must have a permit-required confined space program.
  – Warning signs, authorize each entry, ventilation, entry attendant, etc.
General Environmental Controls

Subpart J (1910.141 – 1910.147)

• Control of hazardous energy (lockout/tagout).
  – During maintenance, stored energy (electric, hydraulic, pneumatic) may cause injury if inadvertently activated.
    • Includes changing lightbulbs, replacing printer toner cartridges.
  – OSHA’s order of preference:
    • Lock out the equipment - tag out the equipment.
  – You must have a program.
    • Cord and plug equipment: turn off, unplug, control of the plug.
    • Invest in locks (don’t forget circuit breaker locks).
    • Procedures for locking out/tagging out/removing locks.
  – Training: authorized, affected, other employees.
Personal Protective Equipment
Subpart I (1910.132 – 1910.138)

• PPE Hazard Assessment.
  – You must have a written program. If you have an SMS, you probably already have the framework for one.
    • Assess each job for hazards, determine appropriate PPE.
      – For example: MSDS.
• If PPE is required, the employer must provide it, at no cost to employees.
  – Certain exceptions for PPE that can be worn off the job.
  – Employer must provide replacement of damaged PPE (except loss/intentional damage).
• If employees choose to provide their own PPE, the employer is responsible for ensuring adequacy and proper maintenance.
Personal Protective Equipment
Subpart I (1910.132 – 1910.138)

• You must provide training:
  – When and what kind of PPE to wear.
  – How to wear (don, doff, adjust) PPE.
  – Limitations of PPE.
  – Care, maintenance, and disposal of PPE.

• Examples of PPE:
  – Eye protection (goggles, spectacles).
  – Face protection (face shields – lav service).
  – Head protection (hard hats).
  – Hearing protection (earmuffs, earplugs).
  – Foot, hand, body protection (gloves, etc.)
Personal Protective Equipment

Subpart I (1910.132 – 1910.138)

• Respiratory protection.
  – What kind do you need?
    • Respirator (if required – depends on concentration):
      – You must have a written respiratory protection program.
      – Must be the right kind (e.g. organic vapor for MEK).
      – Fit testing, medical evaluation required.
    • Filtering facepiece (aka. dust mask):
      – Must have signed Appendix D (“Information for Employees Using Respirators When Not Required Under the Standard”)

• How do you know?
  – Sampling by your workers’ compensation insurance provider.
Everything Else: General Duty Clause
(OSH Act of 1970, 29 USC 654)

• “Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees …”
  – Ergonomics (state OSHAs?)
  – Workplace violence (state OSHAs?)

• OSHA safety and health programs (just like your SMS):
  – Management commitment, employee involvement.
  – Worksite analysis.
  – Hazard prevention and control.
  – Training.
A Word on Training

Authorized – affected – other

• Train, train, train.
• Remember to train those employees who are:
  – Authorized (those who do the work).
    • Person driving the tug.
  – Affected (who are affected by the work being done).
    • Pilot of the airplane.
  – Other employees (who may be where work is being done).
    • Scheduler/dispatcher.
• “Incidental” training: if you’re not authorized, you can’t do it.
Something’s Happened … now what?
Notification and recordkeeping
Recordkeeping (29 CFR 1904)

Something’s happened … now what?

- **Immediate notification (within 8 hours, orally):** (800) 321-OSHA.
  - Fatality (death of any one employee from a work-related incident).
  - Catastrophe (in-patient hospitalization of three or more employees as a result of a work-related incident).
- CA, OR, WA: one hospitalization.

- **Recordkeeping (size exemption: 10 or fewer employees at all times during the last calendar year).**
  - Must keep records for each establishment (basically, physically separate).
- Forms 300, 300A, 301

[www.osha.gov/recordkeeping/RKforms.html](http://www.osha.gov/recordkeeping/RKforms.html)
Recordkeeping (29 CFR 1904)
Something’s happened … now what?

• Form 300 (“Log of Work-Related Injuries and Illnesses”):
  – Within 7 days after receiving information of:
    • Work-related …
    • New case …
    • Death, days away from work, restricted work, transfer to another job, medical treatment beyond first aid, loss of consciousness, diagnosis of a significant injury or illness.
  – Must record who, what kind of injury, days away/restricted work.

www.osha.gov/recordkeeping/RKforms.html
Recordkeeping (29 CFR 1904)
Something’s happened … now what?

- Form 300A (“Summary of Work-Related Injuries and Illnesses”):
  - Must post in a conspicuous place February 1 – April 30 of the following year.
  - Must complete even if everything is zero (no injuries/illnesses).
  - Must be certified by:
    - Owner
    - Officer of corporation
    - Highest-ranking company official at the establishment or his/her immediate supervisor.

www.osha.gov/recordkeeping/RKforms.html
Recordkeeping (29 CFR 1904)
Something’s happened … now what?

• Form 301 ("Injury and Illness Incident Report"):
  – "Or equivalent":
    – Some workers compensation forms are an acceptable substitute.

www.osha.gov/recordkeeping/RKforms.html
OSHA Standards Protect …
… but only if you comply with them
Towards OSHA Compliance

Your OSHA wish list

• Take an OSHA class.
  – 10-hour curriculum, 30-hour curriculum.
• Get started.
  – Take an inventory of what you need to do.
  – Don’t buy stuff: contact your State OSHA Consultation Program.
    • They will be able to provide (free) templates for written programs.
• Give it your best shot. (Nobody’s perfect.)
• Ask for an OSHA On-Site Consultation.
  – Call your State OSHA Consultation Program, not (800) 321-OSHA.

http://www.osha.gov/dcsp/smallbusiness/consult.html
Here to Help … And They Mean It

OSHA’s On-Site Consultation Program

• An on-site consultation visit is similar to a “wall-to-wall” OSHA inspection, except:
  – By law, identified hazards cannot be used for enforcement purposes.
  – The consultant(s) will give you a list of “serious hazards”, that you must abate, within a specific timeframe (for instance, 6 weeks).
    • Extensions are possible.
    • “Imminent danger” requires immediate action.
  – Careful: If you do not abate serious hazards within the agreed timeframe, by law, they will be used for enforcement purposes.
    • Minimum fine for willful violations: $5,000 per violation … per day.
Continuing OSHA Compliance

Your OSHA wish list for next year … and beyond

• Set up an internal audit program.
  – Checklist:
    • Are fire extinguishers inspected as required?
    • Are exits/fire extinguishers/electric shut-offs unobstructed?
    • Are contents of First Aid kit unexpired?
    • Does everything still look right?
    • Etc.

• Ask for an OSHA on-site consultation every two years.
  – Being under a voluntary program gives you immunity from programmed OSHA inspections.
That’s it, folks

Is PowerPoint Poisoning OSHA reportable?
DEDICATED TO HELPING BUSINESS ACHIEVE ITS HIGHEST GOALS.