Insider’s Views on Brewery Safety Programs (I2P2)

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Notes

• Injury & Illness Prevention Programs, I2P2, Safety & Health Programs and similar phrases are used interchangeably for purposes of this session

• Links embedded throughout presentation for easy access to additional information and future reference
Agenda

• **OSHA Overview**
• Economics of Safety
• Overview of Safety & Health Requirements
• OSHA’s View of Safety Programs
• Brewery Safety Issues
• Q&A
OSHA Background

• Enacted in 1970 with the **OSH Act**
  • Intended to follow a ‘balanced approach’ to achieve its Mission
    • To assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes.
    • In short: setting and enforcing requirements, education/outreach, consultation.

• OSHA: a regulatory agency with civil/criminal penalties

• The OSH Act created:
  • OSHA (Federal or State Plans)
  • NIOSH (National Institute of Occupational Safety & Health)
  • OSHRC (OSH Review Commission)

• OSHA’s Jurisdiction
  • Most workplaces (~8 million nationwide)
    • There are exceptions within transportation, pipelines, Ag, mining, state/local employees (in ‘Federal states’), and others
OSHA: Federal & State Plans

- 10 OSHA Regions

- State vs Federal Plans
  - State Plans:
    - Managed by the state government. Must be “at least as effective as” Federal OSHA.
    - AK, AZ, CA, HI, IN, IA, KY, MD, MI, MN, NV, NM, NC, OR, PR, SC, TN, UT, VA, WA, WY
  - All other states fall under Federal OSHA

*Many states have requirements for some form of I2P2, safety committees, etc.*
OSHA Enforcement (Ranked Order)

Types of Inspections
- Imminent Danger
- Accident
- Complaint*
- Referral
- Follow Up
- Programmed

Types of Violations
- Willful
  - Criminal (Fatality)
  - Egregious
- Repeat
- Failure-to-Abate
- Serious
- Other Than Serious

SVEP
- Severe Violator Enforcement Program
  ("Bad Actor List")
Agenda

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- *Economics of Safety*
- Overview of Safety & Health Requirements
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Safety Programs Impact the Bottom Line

• Wide ranging benefits
  • Reduce business risk
    • Reputation, penalties, lawsuits, product quality, etc
  • Reduce (in)direct costs
    • Workers’ comp, lost productivity, turnover, etc
• Organizational impact
  • Increase employee morale/loyalty
  • Less pain/suffering
  • Improves **bottom line**
  • Competitive advantage!
Direct Cost Burden from Injuries

- Injury costs: rates and severity
  - Average injury rate:
    - National: 3.5 cases per 100
    - Brewing: 5.5 cases per 100
  - Average injury costs*:
    - Fatality: $1,400K
    - Disabling injury: $58K
    - W’s Comp Avg: $11K
    - OSHA recordable: $8K
- Brewing industry impact
  - Typical brewer with 100 employees would have to increase sales by $880K @5% profit margin to make up for its cost of recordable injuries

* Sources: Liberty Mutual, National Safety Council
Most Common Cited OSHA

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<th>Standard</th>
<th># Violations</th>
<th>Total Penalty</th>
<th>Avg Penalty</th>
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Most cited General Industry standards ranked by average penalty

Specifically for the brewing industry:
- Overall average penalty per inspection: $12,700
- Average cited violations per inspection: 3.6
- Average penalty per cited violation: $3,525
Injury Rates: Brewing vs Overall Private Sector

**RECORDABLE RATE**
- Breweries
- All Private Sector

**DART RATE**
- Breweries
- All Private Sector
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Where Are Safety Related Requirements...?

Many states (State Plan OSHA, Wage & Hour, etc) have dedicated safety and health related requirements:

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<td>WYOMING⁺</td>
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+ OSHA State Plan
Existing Safety Program Standards

• **Required**
  - Standard specific written program requirements
    - LOTO, PRCS, Hazcom, Bloodborne Pathogens
    - PPE, Respiratory Protection, Hearing Conservation
    - Grain Handling, Fall Protection, Emergency Action Plan
  - State Plant specific written standards
  - In some cases, OSHA citation settlement agreements

• **Optional**
  - [ANSI Z.10](#)
  - [ISO 45001](#)
  - “Voluntary Protection Program” (VPP)
  - [1989 OSHA Guidelines for S&H Programs](#)
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OSHA’s View of I2P2

- Safety programs should incorporate 6 principles
  - Management leadership
  - Employee participation
  - Hazard Identification and Assessment
  - Hazard Prevention and Control
  - Education and Training
  - Program Evaluation and Improvement

- OSHA I2P2
Injury and Illness Prevention Programs: You can make one work in your brewery!

- One size does NOT fit all!
  - Address your brewery specific issues
- Flexibility in implementing the six core elements
  - They can be adapted for an organization’s size, complexity of operations, workforce characteristics
- Partner with experts that can provide attorney-client privilege at no cost
How Do You Know If...????
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Brewers’ Compliance Issues

- Contractor & Temp Worker Safety
- Permit Required Confined Space
- Lockout / Tagout (LOTO)
- Hazard Communication (Including CO2)
- Keg Safety
- Forklifts / Powered Industrial Trucks
- Material Handling
- Walking & Working Surfaces
- Machine Guarding
- Grain Handling
- Combustible Dust
- Personal Protective Equipment (PPE)
- Respiratory Protection (optional vs req’d)
- Noise / Hearing Conservation
- OSHA Recordkeeping (“OSHA Logs”)
- TRAINING, TRAINING, TRAINING!

- Emergency Action Plans
- Fire Extinguishers
- Fire Prevention
- Ladders
- Scissor Lifts
- Aerial Lifts & Fall Protection
- First Aid / CPR / AED
- Bloodborne Pathogens
- Laboratory Industrial Hygiene
- Ergonomics
- Compressed Gases & Flammables
- Air Quality (CO2)
- Walking/Working Surfaces
  - Slips, Trips, Falls
Temp Workers & Contractors

• Temp workers
  • If you pay & supervise them, they’re your employees
  • For OSHA, these are *YOUR* employees
  • Must train & protect them accordingly

• Contractors
  • Complicated multi-employer issues come into play
  • OSHA may cite:
    • *Controlling, Creating, Exposing,* and *Correcting* employers
  • Opportunities for regulatory risk reduction, but reputational risks will remain - *do your due diligence with contractors!*
Confined Spaces are a MAJOR RISK

Heineken UK appears in court following worker death

By Guy Montague-Jones, 06-Jul-2010

Related tags: Heineken UK

Heineken UK has been accused of breaching health and safety regulations after a worker died from carbon dioxide poisoning at one of its breweries.

At Reading Crown Court in the UK, the company pleaded not guilty to two counts under health and safety laws, according to BBC News.

The UK arm of the Dutch brewer denied employer breach of general duty to employee and contravention of health and safety regulations.

The case, which has been adjourned until 20 October for a pre-trial review, relates to the death of a worker who was overcome by carbon dioxide fumes at a Scottish Courage brewery in Reading in 2008.

Brewing hazards

According to the Health and Safety Executive (HSE), there has been an average of one fatality each year over the last decade in the UK brewing industry. Potential hazards include carbon dioxide and nitrogen in confined spaces, as well as falls into vessels and accidents on machinery.
Confined Spaces – DEADLY!!!!

- Confined Space vs Permit-Required Confined Space
  - Confined Space:
    - Not designed for continuous occupancy; Large enough to enter and work; *and* Limited entry/egress
  - Permit Required Confined Space (PRCS):
    - Confined space + additional hazards (atmospheric, mechanical, etc)

- Typical brewery confined spaces
  - Bright tanks, fermenters, mash/lauter tun
  - Grain silos, sump pits, others

- Control entry
  - Prohibit entry / reclassify space
  - Alternate entry procedures
    - Lockout / Tagout, atm monitoring, ventilation, etc
  - Signage! Training!!
Keg Safety

- Exploding keg(s)
  - Fatality in 2012 from using compressed air line to purge a plastic keg. Did not have air pressure regulator (60psi).

- Some brewers use “air guns” without pressure regulator or relief tip nozzle
  - If you have air guns, confirm upstream regulator set 30psi or less and that they have relief tip nozzle

- Periodically inspect the keg for signs of damage
  - Ommegang & Boulevard Brewing
    - Tracking codes on all kegs
    - Inspection/overhaul every certain number of turns
Avoid the Problem Altogether When Possible

• Bright Tanks
  • Problem:
    • Potential for exposure to high levels of CO2 when placing stand-pipe in tanks
  • Avoid the need for entry:
    • PRCS entry no longer needed by using an extension grabber to place and remove the stand-pipe
Lockout / Tagout (LOTO)

• When does LOTO apply?
  • LOTO applies whenever the employee performs service or maintenance on equipment/machinery that requires the employee to remove or bypass a guard or safety device or requires the employee to place any part of his/her body at the point of operation of the equipment/machinery
  • Ensure no hazardous energy exists on/in equipment being worked on (confined space entry, equip maint, etc)

• Written program, equipment-specific procedures, training, and annual audit/reviews are required
• Differentiate when it is cord-and-plug equipment
• Do not use E-Stop as your lockout mechanism
• Do not rely on equipment interlocks for LOTO
  • Bottling line…!!!!
Hazard Communication

• Usually #1 most commonly cited because it’s ‘low hanging fruit’ for the compliance officer

• Make sure employees…
  • Know where the MSDSs are and have unfettered access to them
  • Understand how to read an MSDS
  • Can interpret the pictograms
  • Are aware of what hazardous chemicals are present (chemical inventory) trained on how to manage those chemicals/PPE, why they’re hazardous, symptoms of exposure, reporting exposure, etc.

• Containers and labeling, including secondary containers

• Typical hazardous chemicals in a brewery
  • Caustics/corrosives, acids, flammables, paints, cleaning chemicals, etc
  • Don’t forget about CO2

• Store all hazardous chemicals in proper storage cabinets or spill pallets

• Do not store incompatible chemicals in close proximity!
Best Way to Drive Safety... JSA

- Job Safety / Hazard Analysis (JSA or JHA)

![Job Hazard Analysis (JHA) Worksheet](image)
Do’s & Don’ts
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Closing Thoughts Before Q&A

- Train…train…train your employees on safety
- Recordkeeping review (OSHA Logs)
- Ensure safety & health programs are up to date and reflect your real world operation scenarios
  - Include discipline measures in the program(s)
  - Avoid “off the shelf” safety programs to reduce OSHA risk
- Conduct 3rd party audits and risk assessments
  - Baseline / gap analysis
  - Implement corrective actions
  - Know the techniques to protect your interests
- Partner with experts that can provide attorney-client privilege at no cost
Contact Information

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Other Resources:

OSHA’s I2P2 Webpage:  https://www.osha.gov/dsg/topics/safetyhealth/index.html

OSHA’s Enforcement Webpage:  

https://www.osha.gov/dep/index.html