

- Part 1-

Brewery Safety
Bootcamp – *ONLINE!*

Safety Fundamentals: Safety Culture, Hazard Assessment, and
Walking and Working Surfaces

May 13, 2020

CRAFT BREWERS CONFERENCE & BrewExpo America[®]

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your partner in craft brewery sanitation



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#SafetyAmBadAssador



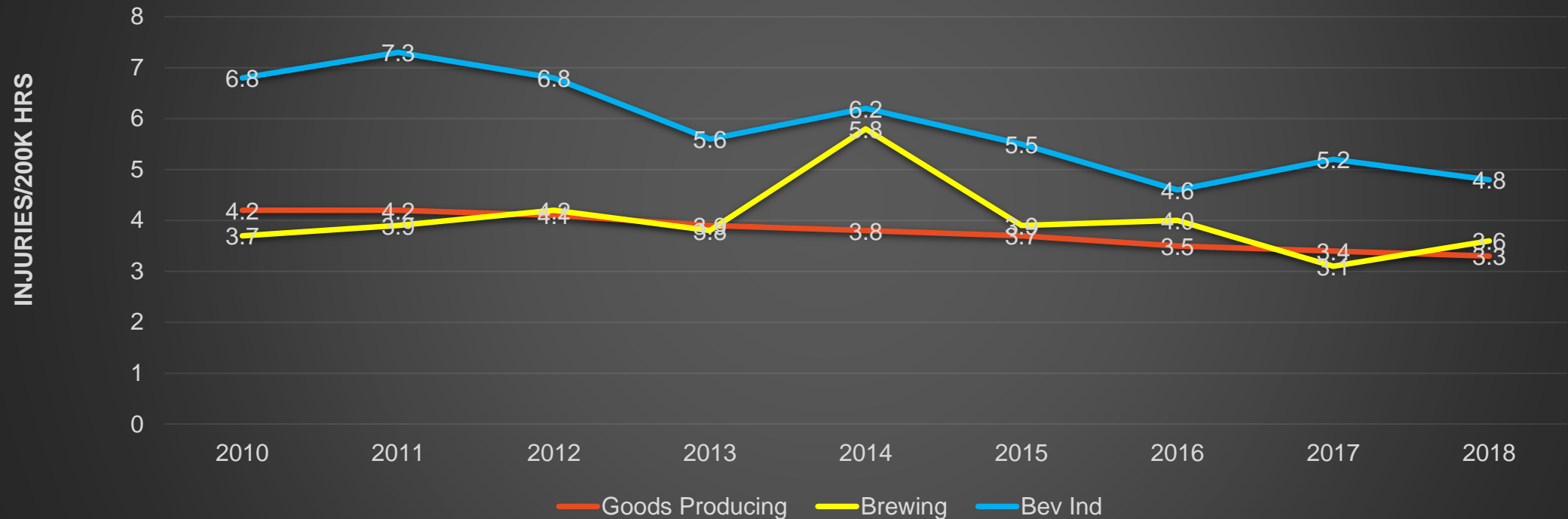
mstinchfield

CRAFT BREWERY SAFETY

WHERE DO WE STAND?

Injury Rates Are Up! (ohhh nooo)

Total Recordable Injury Rates, 2010-2018



New Collaborations and Alliances

NC NORTH CAROLINA
CRAFT
BREWERS GUILD



MBG
MASS BREWERS
GUILD



OHIO
CRAFT BREWERS ASSOCIATION

BA
BREWERS
ASSOCIATION



OSHA
On-Site Consultation

OSHA

Region IV – NC Region V – OH
Region I – MA Region II – NY
Region VIII - CO

Ohio
Bureau of Workers'
Compensation

Build on Basics Going Forward

GENERAL DUTY CLAUSE

Employer creates a “safe and healthful workplace”

Employees abide by safety instructions, use equipment provided, follow rules

OSHA REGS ARE MINIMUM REQ'D

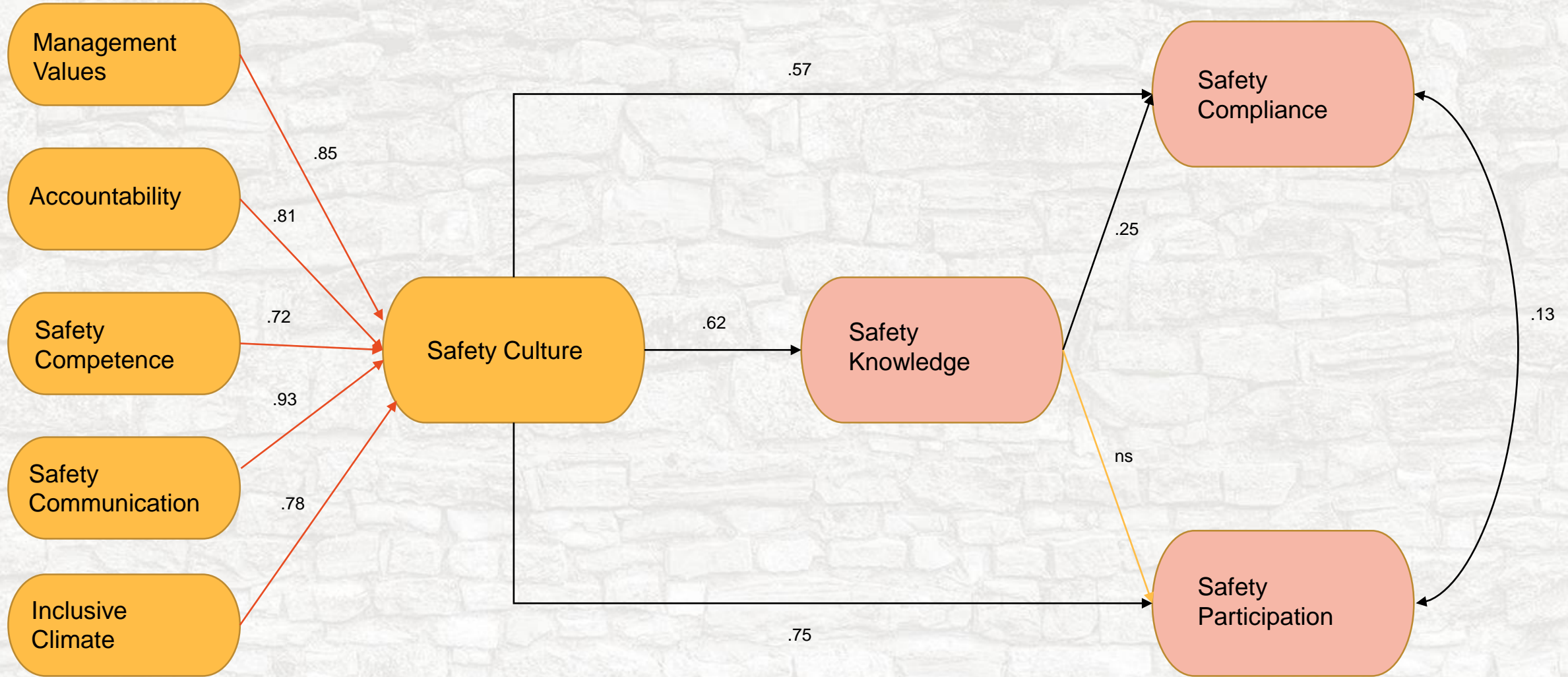
Employers can customize, as long as minimums are met

Documentation of hazards, compliance, and training are essential

CREATING A SAFE AND HEALTHFUL WORKPLACE

Build safety into an inclusive company culture with owners, employees, contractors, customers.

Employ the Hazard Assessment Process





Rachel Bell

Safety Manager

Kiitos Brewing

Salt Lake City, Utah



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COMPANY CULTURE AND SAFETY'S ROLE

IMPORTANCE OF CULTURE

“...group change in behavior occurs through changes in cultural beliefs, attitudes, perceived norms and concepts.”

–Trotter & Schensul, 1998

Four Things to Keep in Mind

- Rules, core values do not take the place of culture; just a small part of it
- Culture is all encompassing, constantly growing, changing
- Your brewery will have a culture, make it the one you want
- Yeast makes beer, people make breweries

WHAT YOUR CULTURE SHOULD INCLUDE

- What is right and wrong; acceptable behaviors
- Education, empowerment and respect for all jobs and departments
- Strong leadership and repercussions for rule breaking
- **PROACTIVE vs REACTIVE**
 - Proactive: think ahead... you care about your employees and product
 - Reactive: employee well-being is an afterthought... more time and money!



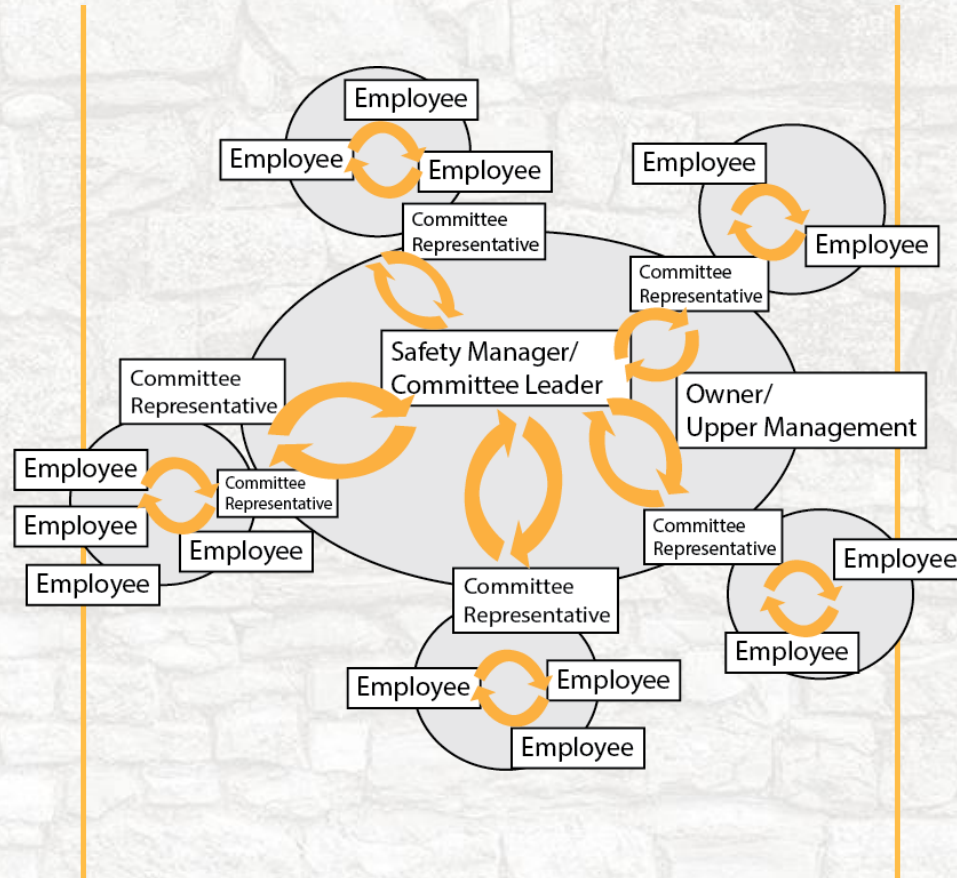
WHAT ARE THE IDEAL RESULTS?

- **Employees who always act as sales people for your brand without realizing it**
- **Employees who police themselves and their coworkers**
- **A company that is built on a good foundation of communication and diversity**



SAFETY MANAGER

- No one else's primary work will suffer
- Able to constantly monitor and update policies and documents
- Ideally heads a safety committee and oversees compliance and projects



SAFETY COMMITTEE

- Must be made up of at least one member of each department
- Must include upper level management
- You can't force someone to be on it
- Anyone who is enthusiastic about joining should probably be allowed to join

**GETTING
STARTED**

Create Policies and Enact Change

- **Get feedback from departments BEFORE policy development**
- **Identify potential roadblocks**
- **Listen to those who do the job every day**
- **Stakeholders with an active role in writing these policies are more likely to follow them**
- **Be prepared to either adjust the policy or punish noncompliance**

**GETTING
STARTED**

Administrative Starting Points

HUMAN RESOURCES

- Employee manual, new employee packets, orientation training
- Keep copies of all employee training, licenses, certs, and renewal dates
- Maintain emergency contact info and private medical records

FACILITY BASICS

- Emergency Action Plan (EAP)
- Hazard Communication Plan (HazCom)
- Display safety signage, OSHA 300 log, licenses, occupancy, etc.
- Hazard assessment and write SOPs for tasks in all departments

BREWERY
HAZARDS

HAZARD ASSESSMENT OVERVIEW

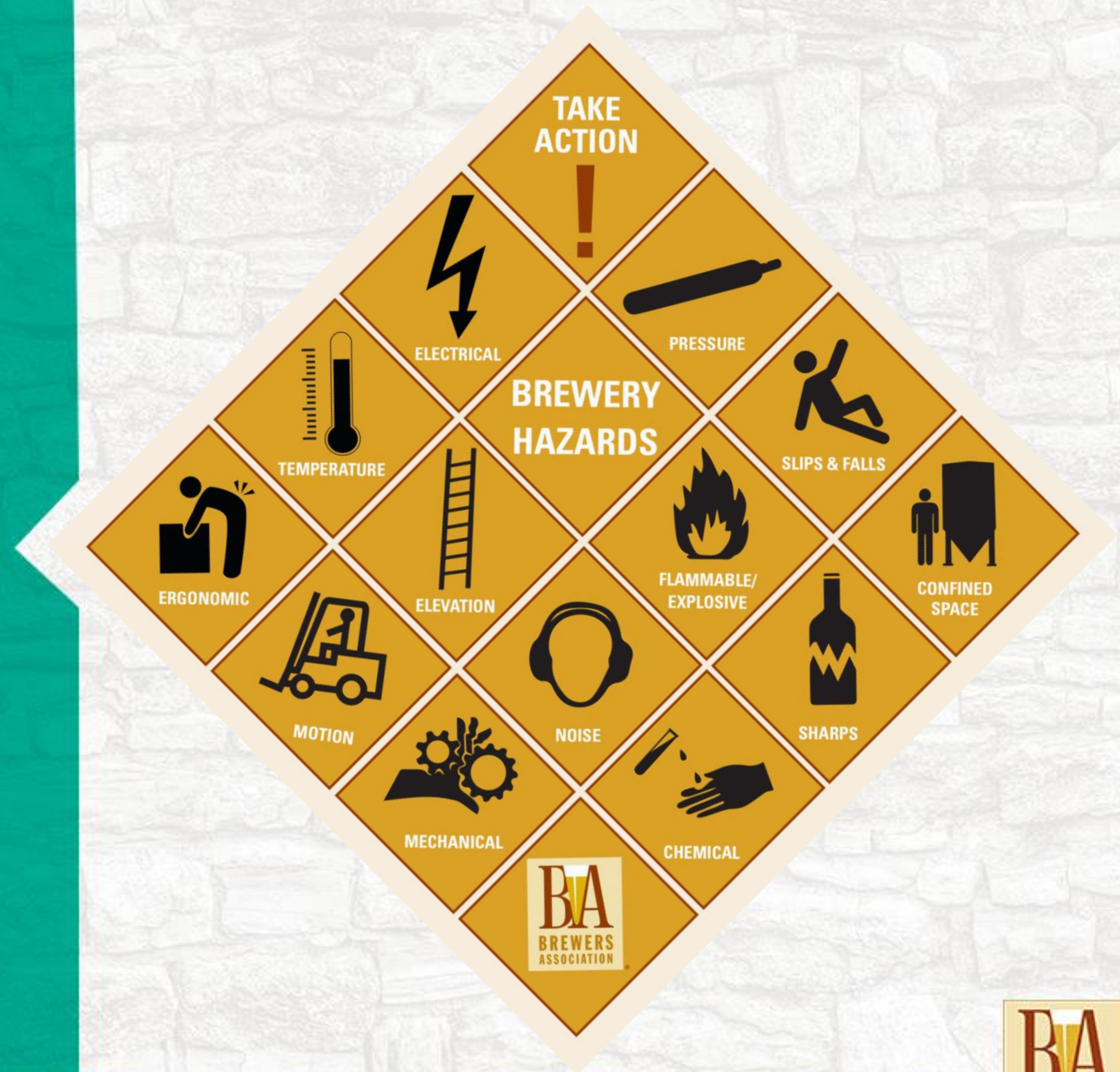
TAKE
ACTION



DOCUMENTING SAFETY AND PROCEDURES

What is Safety?

Freedom from hazards in the workplace



What is Hazard Assessment?

1. Outline steps in task
2. Identify hazards
3. Specify hazard controls
4. Revise procedure to include controls

Okay, But How Do I Actually Do It?

1. Understand the task or process
2. Imagine what could go wrong, i.e. hazards and outcomes
3. Think creatively for ways to prevent or reduce the hazards
4. Document your findings in writing, i.e. SOP



Caustic Washing of a Beer Tank



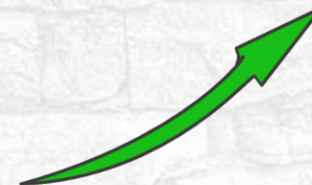
1. Set up CIP Machine



2. Dispense Caustic



3. Run Caustic in Tank





1 - Outline the Steps

Basic Outline of Steps in the Task

1. Connect CIP to FV
2. Fill CIP Tanks
3. Load Caustic
4. Circulate Caustic
5. Drain Caustic
6. Load Rinse
7. Circulate Rinse
8. Drain Rinse & Air Dry





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(opt.) Drill Down to Instruction Level

- a. Add cool water to left tank up to overflow tube
- b. Add hot water to right tank up to 1" below overflow tube
- c. Dispense 4,000 ml caustic into plastic beaker
- d. Add caustic to right (hot) tank
- e. Rinse beaker and put back on caustic drum

2 - Identify Hazards

NO.	STEP	HAZARDS
1	CIP to FV	Slips & Trips, Electrical
2	Fill CIP Tanks	Slips & Trips, Temperature, Concentrated Caustic
3	Load Caustic	Slips & Trips, Temperature, Dilute Caustic
4	Circulate Caustic	Slips & Trips, Temperature, Dilute Caustic
5	Drain Caustic	Slips & Trips, Temperature, Dilute Caustic
6	Load Rinse	Slips & Trips
7	Circulate Rinse	Slips & Trips
8	Drain Rinse	Slips & Trips



3 – Specify Hazard Controls

Identified Hazards for Step 2, Filling the CIP Tanks

NO.	STEP	HAZARDS
2	Fill CIP Tanks	Slips & Trips, Temperature, Conc. Caustic

Slips and Trips Hazard Controls

PREVENTION (SWP & AC)	PROTECTION (EC & PPE)
Avoid walking in puddles	Textured surfaces
Keep eyes on the floor	Slotted drain covers (not open)
Walk like a duck (lower ctr. of grav.)	Waterproof, slip resistant boots
Organize or stow hoses and cords	

Hot Temperature Hazard Controls

PREVENTION (SWP & AC)	PROTECTION (EC & PPE)
Stand back when filling, recirculating	Thermostatic temp. control
Disconnect tri-clamps carefully with valves closed	Long pants, long sleeved shirt
	Rubber boots, rubber gloves, safety glasses

Concentrated Caustic Hazard Controls

PREVENTION (SWP & AC)	PROTECTION (EC & PPE)
Read, understand SDS; Observe labels & placards	Appropriate pumps, non-reactive
Trained in chemical handling	Long pants, long sleeved shirt
Good housekeeping	Rubber boots, gloves, apron
Rinse affected surfaces	Goggles & splash shield
Dispense where/when others will not be affected	



4 – Write/Revise Your S.O.P.

Original Outline of Steps, plus Procedural Instructions and Hazard Controls

1. Connect CIP to FV
2. Fill CIP Tanks
3. Load Caustic
4. Circulate Caustic
5. Drain Caustic
6. Load Rinse
7. Circulate Rinse
8. Drain Rinse & Air Dry



Hazard Assessment BMP

BEST MANAGEMENT PRACTICE (BMP) FOR THE DEVELOPMENT OF SAFETY PROGRAMS IN BREWERIES

VOLUME I

HAZARD ASSESSMENT PRINCIPLES

PREPARED BY THE BREWERS ASSOCIATION SAFETY SUBCOMMITTEE



Hazard Assessment Form

TASK:	HA DATE:
DEPT:	INITIALS:

STEP	DESCRIPTION	HAZARDS	CONTROLS	PPE	FMEA NO.

SOP FORM

TASK: _____	SOP NO: ____ REVISION DATE: ____
DEPT: _____	INITIALS: ____

1) Purpose

This SOP describes Brewery _____'s procedure for safe and effective _____.

2) Scope

This SOP is limited to _____.

RESOURCE HUB

Browse Resource Hub Categories

Explore the Brewers Association's most high-value resources and tools in one click.

CLICK

Production

Brewhouse
Cleaning

Ingredients

Barley
Hops

Brewing Supplies

Kegs
Cans

Quality

Analysis
Lab
Microbiology
Sensory
Food Safety

Safety

Safety Culture & Training
Hazards & Prevention
OSHA

Sustainability

Benchmarking
Energy
Green Building
Solid Waste
Wastewater
Water Usage

Sales & Marketing

Beer & Food
Distribution

Laws & Regulation

Government Affairs
FDA

Human Resources

Employee Health & Safety

Hazard Assessment Toolbox

[Hazard Assessment Principles Guide](#) ↓

[SOP Form](#) ↓

[Assessment Form](#) ↓

EXAMPLE HAZARD ANALYSIS

TASKS

- Examples of typical brewery tasks that carry one or more hazards



EXAMPLE HAZARD ANALYSIS

HAZARDS — OUTCOMES

- Some bad things that can happen to you if you experience the hazard



EXAMPLE HAZARD ANALYSIS

CONTROLS

- Substitution or Elimination
- Safe Work Practices
- Engineering Controls
- Administrative Controls
- PPE





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Health and Safety Manager

Bell's Brewery

Comstock, Michigan



andy-clearwaters-3069989a



WALKING AND WORKING SURFACES & HOUSEKEEPING



AVOIDING SLIPS, TRIPS AND FALLS...
...AND OTHER HORRIBLE INCIDENTS

WALKING AND WORKING SURFACES...

...Wherever Your Feet Touch

- Floors
- Elevated surfaces
- Ladders



Why Are They Important?

- We interact with them constantly
- Slips and falls account for 15% of accidental deaths
- OSHA regulates them
- Let me tell you a story

WALKING AND WORKING SURFACES HAZARD ANALYSIS

TASKS

- Daily brewery work
- Brew deck stairs
- Tank cleaning
- Dry hopping

OUTCOMES

- Slips, trips, falls
- Falls from height
- Falling items
- Increased severity of other incidents
- Electrocution

CONTROLS

- Good housekeeping
- Proper use of surfaces and ladders
- Fall Protection
- SWP – caution
- Emergency planning and egress

WALKING AND WORKING SURFACES

GENERAL REQUIREMENTS



General Requirements

- Good condition
- Clean
- Orderly
- Good lighting



Examples in Brewery

- Hoses, cords, buckets
- Wet surfaces and chemical puddles
- Drains, older floors
- Clutter

WHY IS GOOD HOUSEKEEPING IMPORTANT?

Eliminates Hazards

- Slips and trips (water, ice, glycol)
- Emergency egress
- Access to critical devices
 - Eyewash stations
 - Fire extinguishers
 - Electrical panels
- Falling items (wrench on a ladder)
- Combustible dust build up

Increased Efficiencies

- Better flow of materials and byproducts
- Inventory control
- Effective use of space
- Reduced janitorial services
- Greater productivity
- Improved worker morale

GOOD HOUSEKEEPING BEHAVIORS



GOOD HABITS

- Put away tools/equipment after each task
- Manage hoses, cords, and drain grates (“good hose-keeping”)
- Label storage areas
- Position storage space close to work areas
- Keep brooms, mops, squeegees, spill cleanup supplies on hand & in good repair
- Wear PPE appropriate for the housekeeping activity
- Develop SOPs for common housekeeping activities

LADDER USE – ALL WRONG!!!



TYPES OF STAIRS AND LADDERS

Step Ladders

- Stepladder only used in locked-open position
- No lean against tanks
- Do not stand on top two steps/rungs



Platform Step Ladders

- Nice to use
- Electricity and metal don't mix

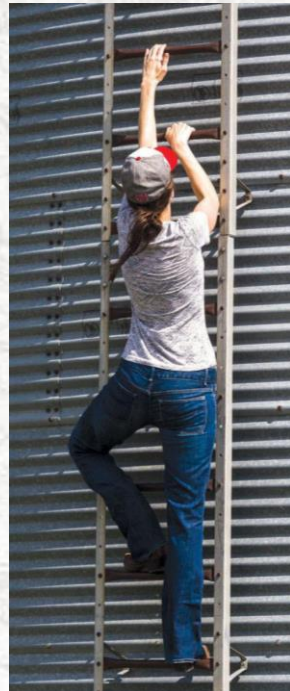


TYPES OF STAIRS AND LADDERS



Extension Ladders

- 4 to 1 pitch
- If exiting, extend 3ft above the surface exiting to



Fixed Ladders

- Before installation understand the rules around clearance and fall protection.

LADDER ALTERNATIVES

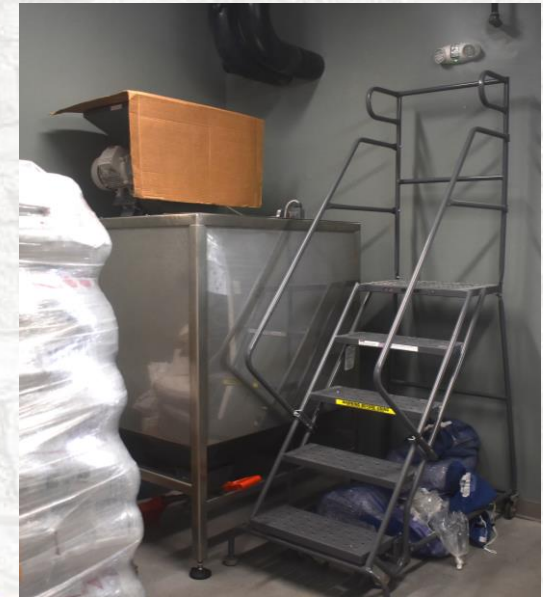
Fixed Stairs

- Required railings
- Uniform pitch



Mobile Platform / Stairs

- Required railings
- Good for dispensing from height



LADDER ALTERNATIVES

Hop Dispensers

- Avoids working at heights
- Avoids hop volcano



Catwalks

- Required railings or fall protection
- Expensive



LADDER USE – MUCH BETTER!!!

3 POINTS OF CONTACT



4:1 ANGLE



BELT BUCKLE RULE



REMEMBER

Most Falls Occur from Lower Heights

- Majority of fall deaths are less than 4 ft drop
- That “dangerous feeling”



ELEVATED WORK SPACES

GENERAL REQUIREMENTS



Engineering Controls

- “Engineer it Out”
- Guard rails/toe boards
- Equipment below
- Guard openings



Fall Protection Systems

- ABC’s
- #1 Rule...
Don’t hit the ground