OSHA REGIONAL INSTRUCTION

U.S. DEPARTMENT OF LABOR **Occupational Safety and Health Administration**

DIRECTIVE NUMBER: DEN-CPL-04-00-002	
SUBJECT: Regional Emphasis Program for Beverage Manufacturing	
REGION: Denver (DEN)	
SIGNATURE DATE: 10/9/2024	**EFFECTIVE DATE:** 10/9/2024

ABSTRACT

Purpose: This Instruction renews the previous Regional Emphasis Program, (REP). The purpose of this REP is to reduce employee exposure to hazards associated with beverage manufacturing processes in general industry operations. Hazards associated with the beverage manufacturing process include, but are not limited to, confined space hazards, fall hazards, injury or illness from physical hazards (such as hearing loss and musculoskeletal disorders), and chemical exposure which is causing or likely to cause severe injury, permanent disability, or death.

Scope: Instruction applies to establishments in the Denver Region's jurisdiction.

References: CPL 04-00-002, Procedures for Approval of Local Emphasis Programs (LEP), November 13, 2018

CPL 02-00-025, Scheduling System for Programmed Inspections, January 4, 1995.

Expiration Date: This Instruction expires on 10/9/2029.

Cancellations: This Instruction cancels Regional Instruction CPL 20-11 (04-01) Regional Emphasis Program for Beverage Manufacturing, October 1, 2019.

State Plan Impact: None

Action Offices: Englewood, Denver, Sioux Falls, Bismarck, and Billings Area Offices

Originating Office: Denver Regional Office

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By and Under the Authority of:

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Jennifer Rous
Regional Administrator, Denver Region

EXECUTIVE SUMMARY

Workers employed in the beverage manufacturing industry face many hazards that can lead to serious injury, illness, and death, including confined space hazards, fall hazards, high noise levels, musculoskeletal hazards, and exposure to hazardous chemicals.

The intent of this Regional Emphasis Program is to encourage employers to take steps to address hazards, ensure facilities are evaluated to determine if the employer is in compliance with all relevant OSHA requirements, and to help employers correct hazards, thereby reducing potential injuries, illnesses, and death for their workers.

This instruction proposes to accomplish this through outreach and enforcement activities. Outreach activities will include letters to employers notifying them of the emphasis program, advising them of the hazards in their industry, and encouraging the use of OSHA consultation services. The Area Offices will also issue a press release upon approval of this program, as well as publish information about the program in the regional compliance assistance newsletter. Enforcement activities will begin no earlier than three months after outreach is initiated and will include, but not be limited to, the inspection and review of beverage manufacturing operations, including all aspects of production operations and material handling activities; injury and illness records; and safety and health programs, to identify and obtain corrections of workplace hazards at all applicable inspection sites.

Significant Changes

None

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I. Purpose.

This Instruction expands an existing Local Emphasis Program, originally established for the Englewood Area Office, to an REP for programmed health and safety inspections of beverage manufacturing processes in general industry operations which may present safety and health hazards, including, but not limited to, confined space hazards, fall hazards, injury or illness from physical hazards (such as hearing loss and musculoskeletal disorders), and chemical exposure which is causing or likely to cause severe injury, permanent disability, or death.

II. Scope.

This Instruction applies to establishments in the North American Industrial Classification System (NAICS) Codes listed below, including those establishments where the NAICS Codes cover a secondary business operation of the establishment (e.g., restaurants that include breweries as part of their operation):

NAICS	Description
312111	Soft Drink Manufacturing: this industry comprises establishments primarily engaged in manufacturing soft drinks and artificially carbonated waters.
312112	Bottled Water Manufacturing: this industry comprises establishments primarily engaged in purifying and bottling water (including naturally carbonated).
312113	Ice Manufacturing: this industry comprises establishments primarily engaged in manufacturing ice.
312120	Breweries: this industry comprises establishments primarily engaged in brewing beer, ale, malt liquors, and nonalcoholic beer.
312130	Wineries: this industry comprises establishments primarily engaged in one or more of the following: (1) growing grapes and manufacturing wines and brandies; (2) manufacturing wines and brandies from grapes and other fruits grown elsewhere; and (3) blending wines and brandies.
312140	Distilleries: this industry comprises establishments primarily engaged in one or more of the following: (1) distilling potable liquors (except brandies); (2) distilling and blending liquors; and (3) blending and mixing liquors and other ingredients.

III. References.

A. CPL 04-00-002, Procedures for Approval of Local Emphasis Programs, November 13, 2018.

B. CPL 02-00-025, Scheduling System for Programmed Inspections, January 4, 1995.

C. CPL 02-00-164, Field Operations Manual, April 14, 2020, or the most current version at the time of the opening conference.

D. CPL 02-00-170, Enforcement Exemptions and Limitations under the Appropriations Act, July 18, 2024, or the most current version in effect at the time of the opening conference.

E. CSP 03-02-003, OSHA Strategic Partnership Program for Worker Safety and Health, November 6, 2013.

F. OSHA Memorandum: Establishment-Targeting Lists for Emphasis Programs, November 12, 2014

G. CPL 03-00-008, National Emphasis Program – Combustible Dust, January 30, 2023.

H. OSHA Memorandum: Protecting the Safety and Health of Temporary Workers, April 29, 2013.

I. NIOSH [2011] Health Hazard Evaluation Report: Ergonomic and Safety Climate Evaluation at a Brewery – Colorado, NIOSH HETA No. 2010-0008-3148.

J. Bureau of Labor Statistics, 2017 Non-fatal Injuries and Illnesses. NOTE: Inspection data generated during the previous five years was used to justify its renewal.

K. White, Christopher, Diacetyl Time Line, available at http://www.whitelabs.com/sites/default/files/Diacetyl_Time_Line.pdf, September 13, 2016.

L. Ledin, H. S., Potential Explosion Hazards due to Evaporating Ethanol in Whisky Distilleries, available at https://pdfs.semanticscholar.org/20b9/6de69ede5e029ac402c06e992a4264b51006.pdf, 2003.

M. Oregon Occupational Safety and Health Administration Department of Consumer & Business Services, Fact Sheet: Craft Distilleries, 2014.

N. Ball, Richard, Hazard Assessment in the Brewing and Distilling Industries, available at http://www.hazardexonthenet.net/article/60418/Hazard-assessment-in-the-brewing-and-distilling-industries.aspx, August 20, 2013.

O. Wastradowski, Matt, Brewery Safety: Common Violations and How to Stay Safe, Occupational Health & Safety, July 18, 2016.

P. Youakim, Sami, Occupational Health Risks of Wine Industry Workers, BC Medical Journal 48, no. 8 (October 2006): 386-91, available at https://www.bcmj.org/articles/occupational-health-risks-wine-industry-workers.

Q. International Labour Office, Chapter 65 – Beverage Industry, Encyclopedia of Occupational Health and Safety (4th ed.), available at http://www.ilocis.org/documents/chpt65e.htm

IV. Cancellation**:** This Instruction cancels previous OSHA Instruction CPL 20-07, Regional Emphasis Program for Beverage Manufacturing, October 1, 2019.

V. Action Office**:** Billings, Bismarck, Sioux Falls, Denver, and Englewood Area Offices.

VI. Federal Program Change**:** None.

VII. Significant Changes**:** None.

VIII. Background**.** According to Bureau of Labor Statistics (BLS) data for 2017, employees in the beverage manufacturing industry (NAICS code 3121) experienced higher injury and illness rates than the national average. The national average total case rate for all injuries and illnesses in 2017 was 3.1 per 100 full time equivalent workers (FTE). The average rate for the beverage manufacturing industry was 5.2 per 100 FTE, approximately 68% higher than the national average. The DART rate, (days away from work, restricted work activity, or transfer to another job) for the beverage manufacturing industry was 3.4 per 100 FTE, approximately 113% higher than the national average of 1.6 per 100 FTE. In addition, hearing loss case rates were approximately seven times higher in the beverage manufacturing industry, 11.1 per 10,000 FTE, compared to 1.6 per 10,000 FTE for the national average.

From January 1, 2013 to November 1, 2018, there have been 30 inspections in the region associated with the NAICS codes identified in Section II above. Twenty-one of the inspections were related to complaints or referrals. Eighteen inspections resulted in the issuance of 39 citations. More than half of these citations centered on hazards associated with respiratory protection, hazard communication, control of hazardous energy, medical services and first aid, and personal protective equipment. However, since the citations resulted from partial-scope inspections, these hazards are not an accurate representation of the hazards employees may be exposed to while working in the beverage manufacturing industry.

A. Hazards: Employees in the beverage manufacturing industry are exposed to a variety of safety and health hazards. There are at least seven general hazards that are shared among the soft drink, brewery, winery, and distillery manufacturing industries: hazards associated with powered industrial trucks,

ergonomic hazards from manual material handling, hazardous noise, hazardous energy, hazards associated with process chemical safety management, permit-required confined space hazards, and exposure to toxic chemicals.

Powered industrial trucks and ergonomic hazards from manual material handling are common safety concerns when dealing with large packaging and shipping departments. This concern is supported by review of BLS data. When injury rates are sorted by event or exposure, nearly every subcategory of the beverage manufacturing industry has a higher rate than the national average in the same two categories: transportation incidents (non-roadway), and overexertion and bodily reaction. The highest incidence rate of ergonomic-related injury was present in the beverage manufacturing industry. The national rate of injury for overexertion and bodily reaction in 2017 was 30 per 10,000 full-time workers, but the incidence rate in the beverage manufacturing industry was 52.1 per 10,000 full-time workers, 74% above the national average.

Larger manufacturing facilities are likely to have more automated processes than smaller facilities. The presence of automated machinery by necessity creates the need for a lockout-tagout program when repair or maintenance is needed. Automated machines also present safety hazards if not guarded adequately and are a likely source for hazardous noise (International Labor Office, 2016). According to nationwide DOL data for most frequently cited OSHA standards by NAICS code, 15 inspections were conducted at soft drink manufacturing facilities between October 2015 and September 2016. Of those 15 inspections, four resulted in violations of the control of hazardous energy standard, making it the second most frequently cited standard. Nine inspections were conducted at breweries during the same time. Control of hazardous energy was also the second most frequently cited violation, with four violations cited in two inspections. There were three inspections at wineries where control of hazardous energy was also the most frequently cited violation. Control of hazardous energy also appeared as a frequently cited violation in the other beverage manufacturing industries, though not as frequent as the previously mentioned industries. This is likely due to the small number of inspections conducted in the same time (bottled water manufacturing had four inspections, one citation; distilleries had two inspections, one citation).

Storage or fermentation tanks have been cited in the past as permit-required confined spaces. Oregon's state OSHA program has issued hazard alerts to wineries and distilleries on the hazards of confined spaces (OROSHA, 2014). Carbon dioxide may be produced as a byproduct of the fermentation process, or may be added to drinks to induce carbonation. Carbon monoxide is produced as a byproduct of the reaction between residual sugar and extremely caustic cleaners such as sodium hydroxide or potassium hydroxide. If not monitored, employees could be exposed to hazardous concentrations of both carbon

monoxide and carbon dioxide inside storage vats (International Labour Office, 2016).

The iconic copper stills involved in the distilling process are under high levels of heat and pressure, leading to a potential for explosion hazards if ethanol vapors are not vented properly. Vapors may be vented into an indoor environment, creating an explosive or flammable environment. A study of distillery explosions concluded that explosions due to high levels of combustible vapors are rare, but explosions seem to be related to inadequately vented storage facilities. When distilled liquors are put into storage for years at a time, vapors may continually build until the saturation point is reached. Therefore, it is important that storage facilities are equipped with electrical wiring suitable for an explosive atmosphere (Ledin, 2003).

Chemical hazards are present at many beverage manufacturing facilities. Chlorine or ozone may be used to purify water at soft drink bottling plants before flavoring is added. Compressed ammonia gas is commonly used to refrigerate beverages after bottling. Larger facilities can potentially require enough ammonia to be subject to the Process Safety Management standard. Caustic materials like alkalines and acids are often used as cleaners, or to balance pH in the fermenting process. Wine makers use sulfur dioxide to kill undesired yeast strains before introducing their own. The fermentation process may also produce toxic byproducts such as carbon dioxide, ozone, and diacetyl (White, 2016; International Labour Office, 2016).

Distilleries receive dry malted or germinated barley and then grind it into coarse dust, which carries flammable properties similar to flour dust. Processing of wheat and barley at breweries can create combustible dust, while ethanol is a product of the manufacturing process (Oregon Occupational Safety and Health Administration, 2014).

Table 1, below, lists anticipated hazards by beverage manufacturing industry subcategory.

Table 1. Anticipated Hazards by Beverage Manufacturing (NAICS 3121) Subcategory

Anticipated Hazard	Soda	Brewery	Winery	Distillery
Powered Industrial Trucks	X	X	X	X
Lockout/Tag Out	X	X	X	X
Ergonomics	X	X	X	X
Process Safety Management	X	X	X	
Noise	X	X	X	X
Confined Space (Carbon Dioxide)		X	X	X

Chemical Exposure	X	X	X

(NIOSH, 2011; Ball, 2013; Wastradowski, 2016; Youakim, 2006)

B. Establishments: The following table indicates the number of establishments in the NAICS codes covered by this instruction for each state in the region participating in this program.

STATE	# of Establishments
Colorado	646
Montana	792
North Dakota	695
South Dakota	709

This REP is meant to increase the probability of inspecting such establishments within the jurisdictional boundaries of the Englewood, Denver, Sioux Falls, Bismarck, and Billings Area Offices.

IX. Inspection Scheduling and Site Selection.

The procedures and the site randomization protocols outlined in the November 12, 2014, OSHA Memorandum: Establishment – Targeting Lists for Emphasis Programs will be followed.

A. Establishments that have received a comprehensive inspection within the previous 60 months of the creation of the current inspection cycle will be deleted from the list.

B. The Area Office may delete an establishment if it is determined that:

1. The establishment is a residence;

2. The establishment is not in the scope of the REP (e.g., the establishment is clearly conducting business other than that covered by the REP); or

3. There is no evidence that the facility exists (e.g., no phone or internet listing, no registration with the Secretary of State, Google Earth or Street View shows conclusively that the business is non-existent).

The criteria used to delete any establishment must be fully documented by the Area Office.

C. In the event a cycle is not completed on or before expiration of this Instruction, the cycle will be extended into the new fiscal year, provided this Instruction is renewed. The outstanding cycle will be completed by the Area Office before establishments are selected from the new master list. If the Instruction is not renewed, the outstanding cycle is effectively cancelled and the Area Office is not

obligated to complete inspections on the remaining establishments within the cycle.

X. Inspection Procedures**.** Inspections will be conducted in accordance with this Instruction and the Field Operations Manual.

A. Inspection Scope: Inspections shall be comprehensive in scope and address both safety and health hazards in all production areas of the establishment to include, but not be limited to, storage of raw materials, the manufacturing processes, chemical storage, packing and shipping areas, electrical equipment, storage areas, and quality control labs.

For inspections in establishments of employers with 10 or less employees that fall under CPL 02-00-170, Exemptions and Limitations under the Current Appropriations Act, the inspection scope will be "health" only and will be partial in scope. Inclusion of employers with 10 or less employees is necessary to ensure that small employers are in compliance with OSHA regulations pertaining to health hazards.

For those establishments where the primary business is a restaurant, drinking place, or retail trade establishment and there is a brewery, winery, or distillery located at the site as a secondary part of the business, the inspection scope will only include the brewery, winery, or distillery portion of the establishment.

B. Appropriations Act: OSHA Instruction CPL 02-00-170, Exemptions and Limitations under the Current Appropriations Act, will be adhered to in implementation of this program.

C. Unprogrammed Activity: Reports of imminent danger, fatality/catastrophe, complaints, and referrals shall be scheduled as unprogrammed inspections and shall be inspected in accordance with the applicable provisions of the FOM. This does not, however, limit the Area Office's authority to conduct an inspection pursuant to this REP. Non-formal complaints will be inspected pursuant to the provisions of the FOM.

XI. OIS Coding**.** Inspections conducted under this REP will be identified in the OSHA Information System (OIS). Current instructions for completing the appropriate inspection classification boxes on the OIS Inspection Form will be followed:

A. The OIS Inspection Form for any programmed inspection scheduled under the procedures in this REP shall be marked "Programmed Planned" in the Initiating Type block and the word "BEVERAGE" shall be recorded in the LEP block.

B. The OIS Inspection Form for any unprogrammed inspection scheduled under the provisions of the FOM relating to formal complaints, referrals requiring inspection, imminent danger, and fatality/catastrophe investigations will be coded as normally required under the FOM. In addition, the designation of "BEVERAGE" will be recorded in the Local Emphasis Program block.

C. Programmed Inspections under this REP will be labeled as "Comprehensive" in OIS with the exception of "health only" inspections (as indicated by CPL 02-00-170, Enforcement Exemptions and Limitations under the Appropriations Act, Table 1) which will be labeled as "partial."

D. Inspections will be coded either "safety" or "health" depending upon the predominant nature of the hazards observed and the conditions reviewed at each establishment.

XII. Outreach**:** Each Area Office participating in the previous Regional Emphasis Program has conducted and continues to provide outreach on hazards in the automotive service industry. Outreach has been in the form of speeches, training seminars, and newsletters to groups identified by the Compliance Assistance Specialist and Compliance Safety and Health Officers.

XIII. Program Report**.** No later than midway through the life of the program, the Area Office will provide a program report of this REP to the Regional Office.

APPENDIX A

Dear Employer:

The Occupational Safety and Health Administration (OSHA) is developing a Regional Emphasis Program (REP) focusing on safety and health hazards related to beverage manufacturing in the following NAICS codes within the jurisdiction of the XXXX Area Office:

312111	Soft Drink Manufacturing
312112	Bottled Water Manufacturing
312113	Ice Manufacturing
312120	Breweries
312130	Wineries
312140	Distilleries

Workers engaged in the craft beverage manufacturing process may be exposed to significant hazards such as oxygen-deficient or explosive environments while working in permit-required confined spaces. Workers may be exposed to chemical hazards from working with caustic or acidic materials, and diacetyl. Workers may also be exposed to physical hazards such as ergonomic factors that contribute to work-related musculoskeletal diseases or hazardous noise from nearby machinery. Other safety hazards are also present while performing material handling tasks such as operating powered industrial trucks and performing maintenance tasks on equipment that has not been de-energized.

Each of these hazards can affect the health or safety of your employees. Exposure to diacetyl has been known to cause a severe obstructive lung disease commonly known as “popcorn lung.” Acidic and caustic materials can cause chemical injury. Safety hazards from powered industrial trucks and unguarded machinery can cause severe injury or death. Exposure to hazardous noise levels in the workplace may result in tinnitus and hearing loss.

The goal of this REP is to reduce or eliminate harmful exposures to workers working in the beverage manufacturing industries. Manufacturing of craft beverages is a continuously growing industry, and we at the XXXX OSHA office want to ensure that your safety culture grows with your workplace.

As a result of this REP, the XXXX OSHA office will be conducting enforcement inspections of workplaces involved in activities defined by any of the above-listed NAICS codes. We are notifying you of our intent to conduct these inspections because your company may be covered by this REP.

OSHA continues to emphasize compliance assistance and to focus on prevention of occupational injuries and illnesses. OSHA has several guidance documents to assist employers in controlling exposures to hazardous chemicals and noise.

The following documents and websites may be of assistance in evaluating and controlling these hazards:

- https://www.osha.gov/SLTC/confinedspaces/ OSHA's Safety and Health Topics Page for Confined Spaces in General Industry
- https://www.osha.gov/OshDoc/data_General_Facts/OSHAcombustibledust.pdf OSHA Hazard Alert: Combustible Dust Explosions
- https://www.osha.gov/SLTC/hazardoustoxicsubstances/ OSHA's Safety and Health Topics Page for Chemical Hazards and Toxic Substances
- https://www.osha.gov/SLTC/noisehearingconservation/ OSHA's Safety and Health Topics Page for Occupational Noise Exposure
- https://www.osha.gov/SLTC/ergonomics/ OSHA's Safety and Health Topics Page for Ergonomics
- https://www.osha.gov/Publications/osha2236.pdf OSHA Publication 2236: Materials Handling and Storage
- https://www.osha.gov/SLTC/etools/pit/index.html OSHA's Powered Industrial Trucks (Forklifts) eTool
- https://www.osha.gov/SLTC/compressedgasequipment/ OSHA's Safety and Health Topics Page for Compressed Gas and Equipment
- https://www.osha.gov/SLTC/flavoringlung/index.html OSHA's Safety and Health Topics Page for Flavorings-Related Lung Disease

In addition to protecting employees from potential exposure to hazardous chemicals and noise, OSHA strongly encourages all employers to develop a comprehensive safety and health program to identify and control all other potential hazards at the work site. You can find information on this topic at the following website address:
https://www.osha.gov/shpguidelines/

OSHA's On-site Consultation Program offers free and confidential safety and occupational health advice to small and medium-sized businesses in all states across the country, with priority given to high-hazard worksites. On-site Consultation services are separate from enforcement and do not result in penalties or citations. To find out more about OSHA's Consultation Program, visit the web page or call (XXX) XXX-XXXX.

INSERT ADDRESS AND PHONE FOR CONSULTATION

http://www.osha.gov/dcsp/smallbusiness/consult.html.

If you have questions about any of the referenced resources or need assistance locating additional information on the OSHA web site, please feel free to contact our office at (xxx) XXX-XXXX.

Your commitment to employee safety and health is appreciated.
Sincerely,

XXXXXX
Area Director, XXXXX Area Office