



# Iowa Green Brewery Certification

**Iowa Waste Reduction Center | University of Northern Iowa**

## **Environmental Plan**

## 1. **Facility Equipment and Process Lines, HVAC Ductwork, Plumbing Line**

**Inspection:** *By identifying and regularly inspecting process lines, HVAC ductwork, and plumbing lines, inefficiencies or leaks can be identified and repaired. Documentation creates and increases employee awareness.*

- **Process Line Inspections (1a.)**
  - Identify and document process lines present at the facility
  - Complete and document quarterly inspections
  - Record any repairs made
- **HVAC Inspection/ Cleaning/ Filter Replacement (1b.)**
  - Identify and document HVAC ductwork
  - Complete and document quarterly inspections
  - Record any repairs made
- **Plumbing Inspection (1c.)**
  - Identify and document plumbing lines
  - Complete and document quarterly inspections
  - Record any repairs made

## 2. **Operational Efficiencies:** *Implementing and using energy efficiency strategies for projects and equipment will allow the facility to reduce energy usage. Documentation creates and increases employee awareness of alternative efficiency opportunities*

- **Operational Efficiencies (2a.)**
  - Identify and document the following
    - Energy efficient equipment (HVAC units, water heaters, appliances, electronics, etc)
    - CFL/ LED lighting
    - Heat recovery activities
    - Protocols for turning off lights and/or the use of motion sensors or timers for lighting
    - Protocols for shutting down equipment
    - Use of renewable energy
    - Energy efficient windows and doors
- **Optimal Operating Temperatures (2b.)**
  - List all equipment with temperature controls (thermostats, hot water heaters, boilers, etc.)
  - Document the optimal operating temperatures (according to manufacturer's specifications of brewery process knowledge)

**3. Wastewater Management:** *Reusing or recycling process water reduces the overall water usage by the facility. Eliminating solids from wastewater stream lessens the burden on the wastewater treatment facilities and decreases the facilities environmental footprint.*

○ **Process Water (3a.)**

- Identify and document processes or projects to reuse and recycle process water (cleaning, watering, etc.)
- Identify and document procedures used to reduce solids (yeast, grains, hops, etc.) in the wastewater discharge
- Document stormwater best management practices- SWPPP or No Exposure

**4. Solid Waste Management and Recycling:** *Documentation and monitoring of solid waste and reduction/ management/ diversion efforts will allow facilities to reduce their impact in landfills. Documentation creates and increases employee awareness of diversion options and strategies.*

○ **Recycling Plan (4a.)**

- Create and implement a recycling plan for traditional recyclable materials (paper, cardboard, plastics, aluminum, glass) and non-traditional recyclable materials (pallets, ink cartridges, drums/ totes, etc.)

○ **Spent Grain Diversion From Landfill (4b.)**

- Create and implement a recycling plan for spent grains

○ **Annual Waste Audit (4c.)**

- Determine the types of waste and amounts being generated at your facility
- Determine the effectiveness of current waste management strategies
- Evaluate product inventory
- Review current employee training procedures related to waste management efforts
- Track cost savings and revenue generation
- Create goals for the year

**Facility Equipment and Process Lines, HVAC Ductwork, Plumbing  
Line Inspection**

**1a.**

<b>Process Line Location</b>	<b>Quarterly Inspection (Y/N)</b>	<b>Repairs Made</b>

**1b.**

<b>HVAC Location</b>	<b>Quarterly Inspection (Y/N)</b>	<b>Repairs Made</b>

**1c.**

<b>Plumbing Location</b>	<b>Quarterly Inspection (Y/N)</b>	<b>Repairs Made</b>

## Operational Efficiencies

**2a.**

	Yes/ No	Standard Operating Procedures
Energy efficient equipment		
CFL/ LED lighting		
Protocols for heat recovery		
Protocols for turning off lights/ motion sensors		
Protocols for shutting down equipment		
Use of renewable energy		
Energy efficient windows and doors		

**2b.**

Equipment	Optimal Operating Temperatures

## Wastewater Management

**3a.**

Processes/ Projects to Reuse and Recycle Wastewater

Procedures Used to Reduce Solids in Wastewater Discharge



## Solid Waste Management and Recycling

**4a.**

Recyclable Material	Disposal Plan

**4b.**

Spent Grains Recycling Plan	
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**4c.**

Type of Waste	Amount (lbs)

**Effectiveness of Current Waste Management Strategies:**

**Product Inventory:**

**Current Employee Training Procedures:**

**Cost Savings and Revenue Generation:**

**Goals:**

## Quarterly Inspection Checklist: Process Line, HVAC, Plumbing

<b>HVAC Equipment Filters and Coils</b>	<b>Yes</b>	<b>No</b>	<b>Repairs Made</b>
Are all coils clean and free of debris?			
Are all filters clean?			
Have any filters been replaced as a result of this inspection?			
<b>Plumbing and Process Lines</b>	<b>Yes</b>	<b>No</b>	<b>Repairs Made</b>
Are plumbing lines free of leaks (using leak detection spray)?			
Are process lines free of leaks (using leak detection spray)?			
Have any leaks been identified as a result of this inspection?			
<b>Refrigerant and Process Lines</b>	<b>Yes</b>	<b>No</b>	<b>Repairs Made</b>
Are all required process lines and plumbing properly insulated?			
Has any insulation been added or repaired as a result of this inspection?			
<b>HVAC Ductwork</b>	<b>Yes</b>	<b>No</b>	<b>Repairs Made</b>
Is the ductwork free of damage or leaks?			
Has any ductwork been repaired as a result of this inspection?			