

# Beyond Compliance

## **Using PSM to Enhance the Grain Handling Facility Standard**



**BLUEFIELD**  
PROCESS SAFETY

# Presenters

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# Beyond Compliance

## **Using PSM to Enhance the Grain Handling Facility Standard**



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PROCESS SAFETY

# Overview

## Beyond Compliance:

Using PSM to Enhance the Grain Handling Facility Standard

GHF 29 CFR 1910.272

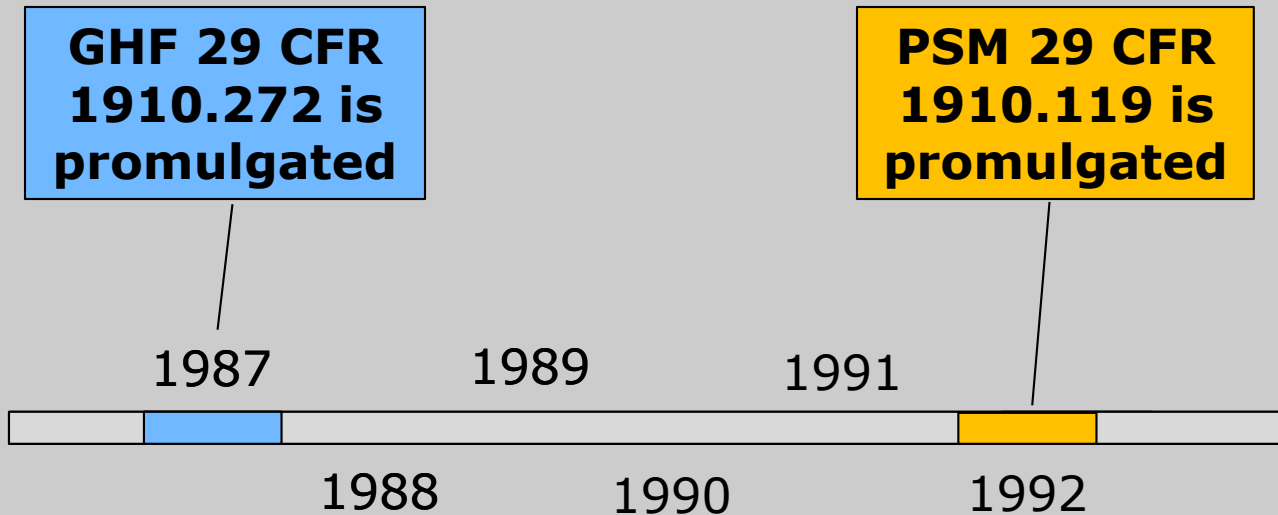
PSM 29 CFR 1910.119

Common Elements

PSM Benefits

Case Study

# Regulatory history



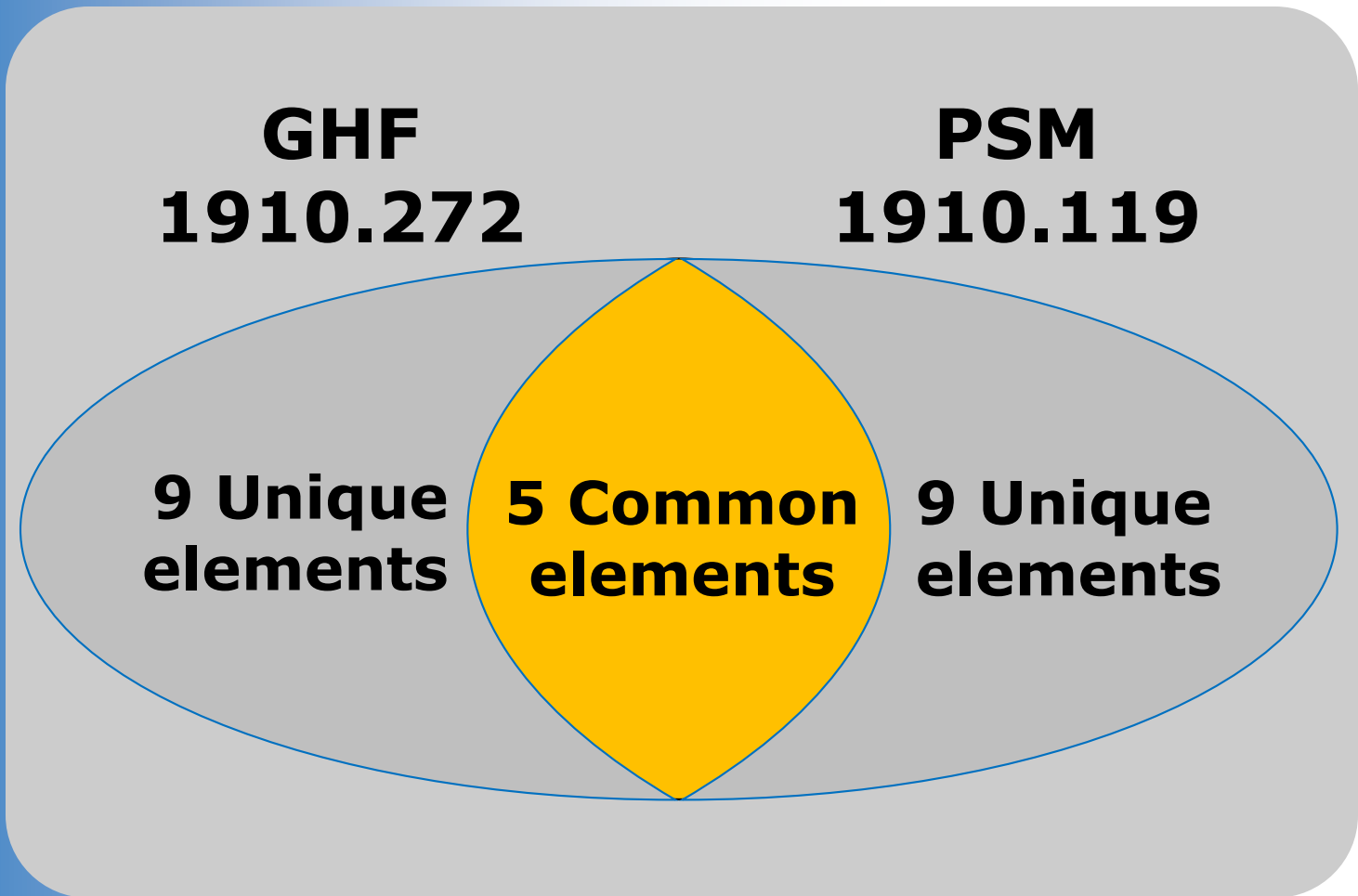
- ❖ **Addresses combustible dust explosions and engulfment**
- ❖ **Addresses fires, explosions, and toxic releases in facilities that handle or use highly hazardous chemicals**

# Case Study

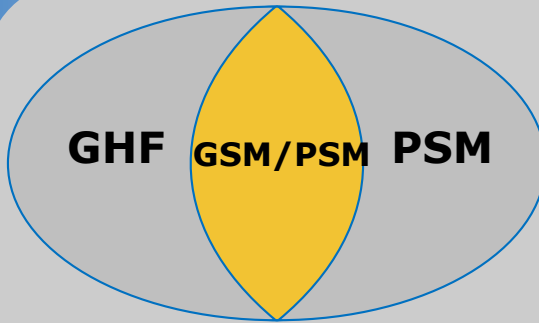


Pixabay

# Common and unique elements



# Common elements



- ❖ Training
- ❖ Contractors
- ❖ Mechanical Integrity
- ❖ Hot Work Permits
- ❖ Emergency Planning & Response

- ❖ **While the intent in each standard is similar, the depth of approach in these elements differ**



# Training

- ❖ **Both require refresher training**
  - ◆ **GHF → Annually**
  - ◆ **PSM → Every three years**
  
- ❖ **PSM also calls for**
  - ◆ **Training on operating procedures**
  - ◆ **Documentation for mandated training**

# Duplicate training requirements

**Both require training already required by other regulations**

- ❖ **1910.38**      **Emergency action**
- ❖ **1910.146**    **Confined space**
- ❖ **1910.147**    **Lockout/tagout**
- ❖ **1910.252(a)** **Hot work**
- ❖ **1910.1200**   **Haz comm**

# Contractors

## ❖ Both require

- ◆ Informing of potential fire and explosion hazards
- ◆ Reviewing Emergency Action Plan

## ❖ PSM also calls for

- ◆ Exemption of incidental services
- ◆ Evaluate contractor safety record
- ◆ Assure contractor training
- ◆ Contract employers also have responsibility
- ◆ Restricted access for contractors

# Mechanical integrity/Prev Maint

- ❖ **Each lists specific types of equipment**
- ❖ **Both require**
  - ◆ Assurance of mechanical integrity
  - ◆ Inspection and testing
- ❖ **PSM also calls for**
  - ◆ Quality assurance program

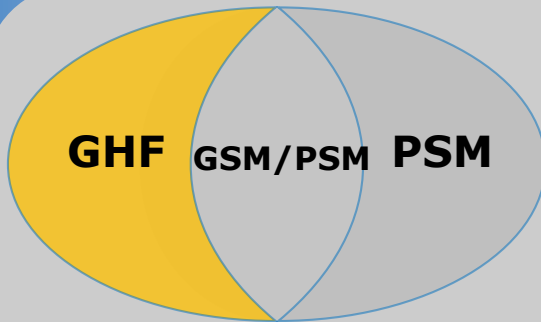
# Hot work

- ❖ **Both refer to Hot Work per 29 CFR 1910.252(a)**
- ❖ **Where they differ**
  - ◆ **GHF standard only requires a written permit in covered areas when the employer's representative will not be present**
  - ◆ **Under the PSM standard, written hot work permits are required for all hot work in covered areas**

# Emergency planning/response

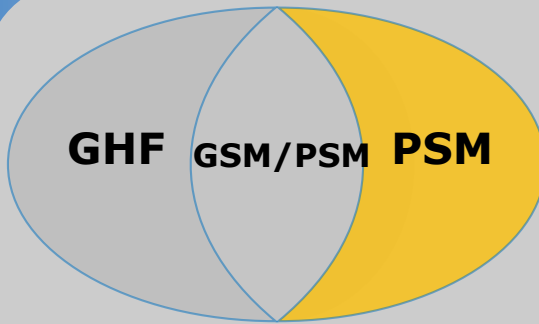
- ❖ **Both require emergency action plans per 29 CFR 1910.38**
  - ◆ Requirement to follow 1910.38
- ❖ **PSM also calls for**
  - ◆ Procedures to handle small releases
  - ◆ Compliance with 29 CFR 1910.120 (HazWOpER), when required

# Unique elements of GHF



- ❖ **There are nine unique elements in the GHF**
- ❖ **Specific to grain handling facilities, with nothing more to offer facilities covered under PSM**

# Unique elements of PSM



- ❖ **Employee Participation**
- ❖ **Process Safety Information**
- ❖ **Process Hazard Analysis**
- ❖ **Operating Procedures**
- ❖ **PSSR**
- ❖ **MOC**
- ❖ **Incident Investigation**
- ❖ **Compliance Audits**
- ❖ **Trade secrets**



# Employee participation

- ❖ **Provides cooperative flow of process safety knowledge**
  - ◆ **Addresses concerns and suggestions of the employee**
  - ◆ **Employee process knowledge is valuable**
  - ◆ **Participation in hazard reviews and development of all elements of process safety**
  - ◆ **Access to safety information for the employees/representatives**

# Process Safety Information

## ❖ Intent

- ◆ Assure data about key aspects of process is available, so hazard reviews can be performed

## ❖ Specific information compiled in three areas:

- ◆ Substances in the process
- ◆ Technology of the process
- ◆ Equipment in the process

# Process Hazard Analysis

## ❖ Intent

- ◆ Identifies specific hazards
- ◆ Understands consequences
- ◆ Addresses risk

## ❖ Going beyond explosion hazards

- ◆ Not just a DHA, per NFPA 652
- ◆ Safety at grain handling facilities will benefit by employing the expanded attention of PHA

# Operating Procedures

## ❖ Intent

- ◆ Prevents “winging it”, especially during atypical phases of operation
- ◆ Reminds operators of hazards

## ❖ Written procedures improve safety

- ◆ Probability of error is much lower with written operating procedures instead of plant lore

# Pre-Startup Safety Review

## ❖ Intent

- ◆ Assure that hazards are addressed before hazardous substances are introduced

## ❖ Do grain facilities need to wait on a PSSR before starting?

- ◆ Hazards arise from accumulation, not from “chemicals in”
- ◆ However, PSSR items could be done concurrently with startup

# Management of Change

## ❖ Intent

- ◆ Assure that hazards from change are understood and taken into account
- ◆ No new hazards are introduced
- ◆ Assure existing safeguards are not removed

## ❖ Going beyond with MOC

- ◆ MOC requirements would benefit grain handling facilities

# Incident Investigation

## ❖ Intent

- ◆ Ensure that catastrophic incidents or potential incidents are understood
- ◆ Put measures in place to prevent reoccurrence

## ❖ Investigation will be helpful

- ◆ Without PSM's timing requirements
- ◆ "Potential incidents" need to be defined

# Compliance Audits

## ❖ Intent

- ◆ Ensure that the facility complies with PSM standard
- ◆ Conducted every three years
- ◆ Retain reports

## ❖ Compliance audits can help improve performance

- ◆ May become backward looking, rather than forward looking, when in the hands of inspectors



# Trade Secrets

## ❖ Intent

- ◆ Assure that relevant information of the facility is available, regardless of trade secret status
- ◆ Confidentiality agreements are used

❖ Not particularly relevant to the grain handling industry

# Summary

- ❖ **Five elements are common to the GHF and PSM standards**
- ❖ **Difference in common elements are justified; operator training is an improvement from PSM**
- ❖ **Nine elements of PSM are not addressed by the GHF standards:**
  - ◆ **PHA, accepted as written**
  - ◆ **PSSR and Trade secrets, rejected**
  - ◆ **Remaining six, accepted with limitations**

# Questions?

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