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**AGRISPHERE**<sup>TM</sup>  
REACH HIGHER



# How Efficient Operations Affect Employee Safety

**The Pressure of Production of Safety**

**Jim Voigt , Executive Vice President**

# Jim Voigt



- ▶ Co-Founder and Executive Vice President of AgriSphere, LLC
- ▶ Bachelor of Science in Agricultural Business Management
- ▶ 45 years of experience in the feed and grain industry
- ▶ 30 years with ADM; retired in 2012
- ▶ Extensive working knowledge of:
  - ▶ Operations, processes and organizational structure
  - ▶ Supply chain management
  - ▶ Regulatory – labor, safety, food safety, environmental

## **JIM VOIGT**

Executive Vice President



217-855-4534





Have you heard this before?



# Agenda



- Introduce Efficiency and Safety Concepts
- Conflict or Synergy
- Tools and Processes
- Examples
- Summary
- Questions



# Safety and Efficiency



## ➤ Safety

- is the state of being "safe", the condition of being protected from harm or other non-desirable outcomes. *Safety* can also refer to the control of recognized hazards in order to achieve an acceptable level of risk. (Wikipedia)

## ➤ Efficiency

- accomplishing something with the least waste of time and effort; competency in performance; accomplishment of or ability to accomplish a job with a minimum expenditure of time and effort; signifies a level of performance that describes using the least amount of input to achieve the highest amount of output. (Oxford Dict.)





# Safety



- Know and comply with the regulations
- Create a safety culture, safety plan
- Keep your work place clean and orderly
- Identify and eliminate or control hazards
- Understand the benefits of a safe workplace
- Maintain PPE , equipment, and machinery
- Be alert at all times, look out for each other
- Remove the “Short-cut Culture”





# Safety



- ▶ Know who is responsible for safety
- ▶ Strive to do better, zero accidents are possible
- ▶ Training
  - ▶ Onboarding
  - ▶ Required annual
  - ▶ Task specific
  - ▶ Certifications
  - ▶ Only do the jobs you have been trained for





# Efficiency



- ▶ Know your operation, flow and performance level
- ▶ Have a plan and goals
- ▶ Establish standards and metrics
- ▶ Identify and remove barriers to success
- ▶ Eliminate waste
- ▶ Eliminate variances to standard
- ▶ Communicate
- ▶ Analyze, make changes, improve







# Safety and Efficiency – Is there a conflict or is there synergy?

- ▶ Common opinion - safety is sacrificed when production is impacted negatively
  - ▶ Short cut safety to make production goals
  - ▶ Production comes first
- ▶ When done right – increased efficiency and productivity will have improved safety performance as one of the benefits



# Common Traits of Programs



- ▶ Both require knowledge and analysis of people, procedures, machinery and facility
- ▶ Both use assessments of processes
- ▶ Both require comprehensive ongoing training
- ▶ Both create program and procedures
- ▶ Both use metrics and analytics
- ▶ Both require a commitment and management participation for success



# Common Traits of Programs



- Both require a culture change, change management
- Both are impacted by conditions and behaviors
- Both can negatively impact assets if not effective, people and plant
- Both are results-oriented
- Both require a buy-in and commitment to succeed by all employees ; belief in a common agreed to reachable goal



# Common Traits of Programs



- ▶ Both require Team Building
  - ▶ Shared visions and goals
  - ▶ Two way communication and agreement
  - ▶ Delegated roles and responsibilities
- ▶ Both are managing assets - people, time, money, raw materials, finished product, machinery, buildings, morale, community and company image and reputation



# Continuous Improvement



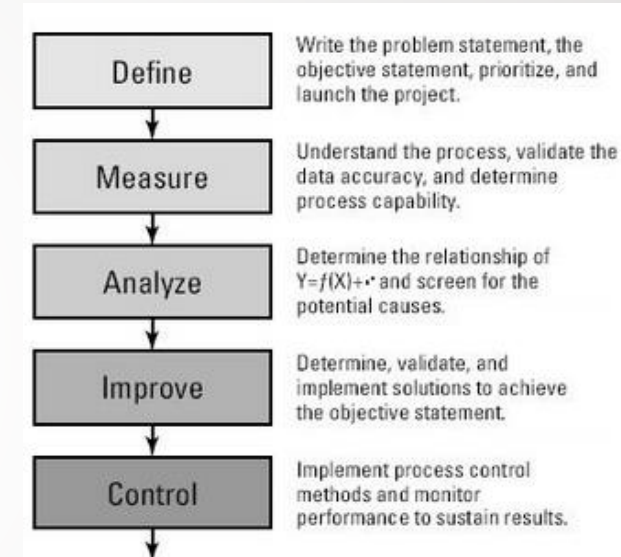
- ▶ Lean , Six Sigma, Kaizen, TQM, TPS, etc.
- ▶ Methodologies for improvement
- ▶ Eliminate waste
  - ▶ Problem or barrier identification
  - ▶ Problem or barrier elimination
- ▶ Improve flow
- ▶ Create repeatability, eliminate variance (defects)
- ▶ Mistake-proof the process



# DMAIC



- Major tool in Six Sigma
  - Define the process or problem
  - Measure the process or problem
  - Analyze the process or problem
  - Improve the process or problem
  - Control the process or problem



- Insert activity or opportunity for problem
- Methodology similar to many safety process management models
- Terminology difference but same goals, improvement!



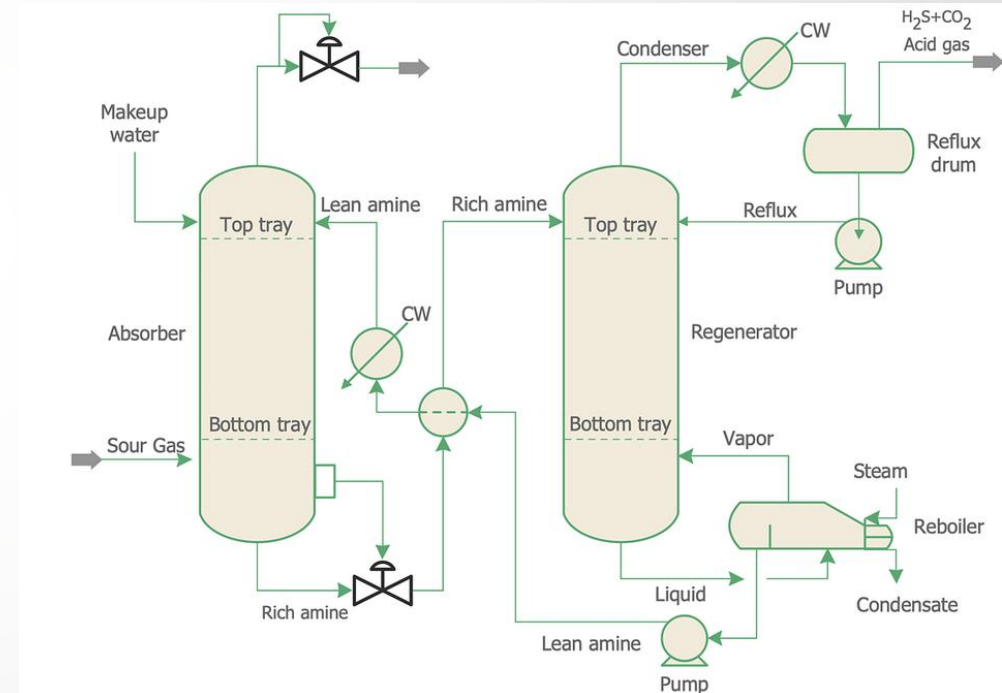
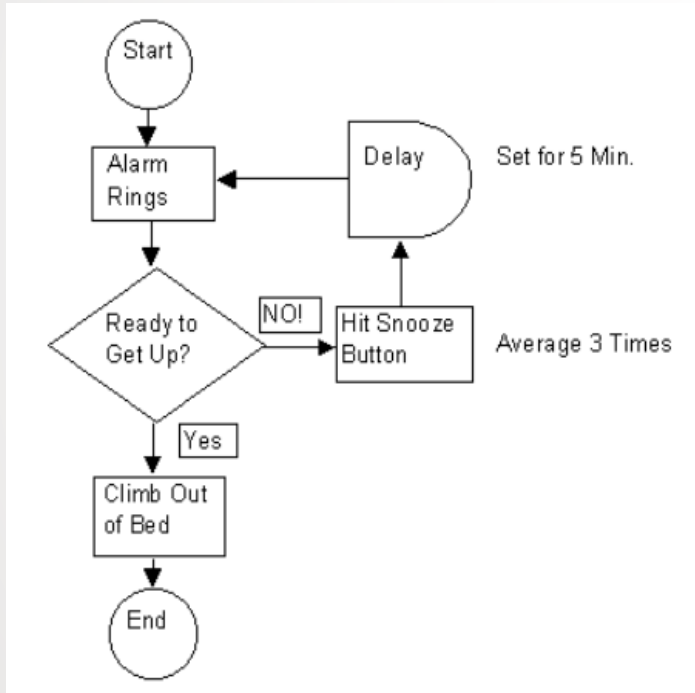


# Easy CI tools to use

- ▶ 5S - Major tool in Lean
  - ▶ Sort – keep only necessary items
  - ▶ Set in order – arrange items to promote efficient work
  - ▶ Shine – clean the work area, neat and organized
  - ▶ Standardize – set standards for consistency
  - ▶ Systematize – Maintain and review standards
  
- ▶ 5W's plus H – tool in Six Sigma
  - ▶ Who
  - ▶ Why
  - ▶ When
  - ▶ What
  - ▶ Where
  - ▶ And How



# Identify and understand flow and process





# Risk Assessment



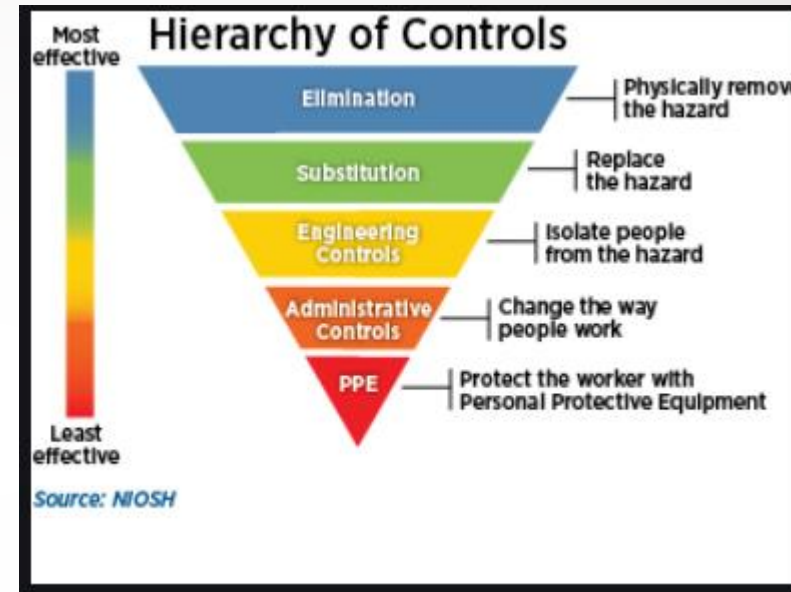
- ▶ Identify hazard
  - ▶ actual
  - ▶ potential
- ▶ Identifies who may be harmed , what , where and how
- ▶ Assess risk for
  - ▶ probability
  - ▶ Frequency
  - ▶ severity
- ▶ Document findings
- ▶ Identify possible controls
- ▶ Review



# Types of Control



- Elimination
- Substitution
- Engineering
- Administrative
- Personal Protective Equipment
- Combination of above





# JHA's



- ▶ Job Hazard Analysis
  - ▶ Risk analysis
  - ▶ Other names interchangeable – JSA, AHA (activity)
- ▶ Technique for improving worker safety when completing hazardous task
- ▶ Step-by-step description that identifies and controls actual and potential hazards in a job task
- ▶ Should be documented, tested, review, evolved
- ▶ Easily evolve into SOP's





# SOP's



- ▶ Standard Operating Procedures
  - ▶ Best practice
  - ▶ Detailed - who , how, when, where, and what
- ▶ Provide step-by-step instructions that act as guidelines for employee work processes
- ▶ Will produce predictable and repeatable outcome
- ▶ Will assist in achieving desired results



# Inspections



- ▶ Inspection – snapshot of given point in time
  - ▶ Planned or scheduled
    - ▶ Pre-use
  - ▶ Unscheduled
  - ▶ On going
- ▶ Specific as to scope and intent established - compare against a documented standard
- ▶ Established frequency and duration - managed
- ▶ Trained and qualified inspectors
- ▶ Documented



# Maintenance



- ▶ Maintenance – what is it?
  - ▶ Not just keeping the wheel on and the doors open
  - ▶ It avoids downtime and delays, improves efficiency
  - ▶ It extends asset life
  - ▶ It reduces cost
- ▶ It is **more than machines** – It helps control hazards
  - ▶ It prevents injuries and/or safety incidents
- ▶ Maintenance evolution
  - ▶ Reactive/Corrective – most common
  - ▶ Preventive – good first step
  - ▶ Predictive/Risk Based– strive to get to – **data driven**
  - ▶ Reliability/**Condition Based** – ultimate goal



# Training



- ▶ Training – the action of enhancing the skills, capabilities, knowledge, and behaviors of employees doing a particular job.
- ▶ Importance of training – Training communicates expectations and processes and methods of obtaining them
- ▶ Benefits of training – Increases employee job satisfaction , motivation and morale; increased efficiencies in processes, increase capacity to adapt to new technologies , concepts or methods, easy of change management and culture development
- ▶ Common types of training – informational, technical, skills, and safety



# Training



- ▶ Four steps of training-
  - ▶ Preparation
  - ▶ Presentation
  - ▶ Performance trial, verify understanding
  - ▶ Follow through/follow up
- ▶ Barriers to training – cost, scheduling, language and reading skills, computer skills, lack of commitment, lack of buy in , irrelevant topics, poor materials and presentation
- ▶ Training plan – detailed document that plans and guides the delivery of instruction.







# Metrics/Documentation

- ▶ You can't control what you don't measure
- ▶ Be sure to measure the right data – KPI's
- ▶ Look at past, present, and future (proactive)
- ▶ Provides ability to define goal attainment or improvement
- ▶ Use to compare against internal targets or industry standards
- ▶ **If it isn't documented it did not happen!**
- ▶ Provide Standardization





# Analysis

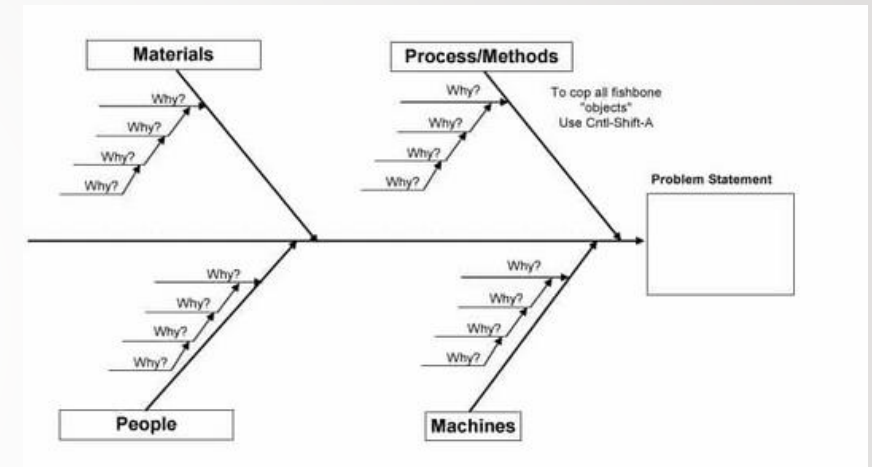
- ▶ Definition - Detailed examination of the elements or structure of something
- ▶ Two types of
  - ▶ Data analysis
  - ▶ **Problem analysis – used most common in our industry**
- ▶ **Problem analysis** – the investigation of the causes of an incident, issue , barrier or failure
- ▶ Is done to identify areas for improvements to systems, processes, procedures, designs, and cultures
- ▶ Identifies hazards and possible controls



# Problem Solving



- Identifies the problem
- Defines goals or desired outcome
- Brainstorm – team activity
- Assess alternatives
- Identifies best solution
- Execution of the chosen solution – **just do it!**
- Test and evaluate; make adjustments as required



# Review Process



- ▶ Purpose – the systematic examination of a document or process to verify all data, assumptions, solutions, training, and communication will or are resulting in the desired outcomes. - J. Voigt 2020
- ▶ Remember the workplace and activities are not static, they evolve
- ▶ Remember that Internal expectations change
- ▶ Remember that external requirements or standards change
- ▶ Remember that culture changes





# Examples

- ▶ Maintenance
- ▶ Housekeeping
- ▶ Documents – SOP's and JHA's
- ▶ Machine operation
- ▶ Training
- ▶ Impact on Customer Satisfaction/Reputation/Sustainability
- ▶ Impact on Morale – job satisfaction, turn over



# Summary



- ▶ An efficient plant is clean, orderly and well maintained
- ▶ An efficient plant has standardized processes and procedures
- ▶ Efficient plants have specific continuous training
- ▶ An efficient plant controls and eliminates waste and variance
- ▶ *Clean, orderly , well maintained plants have fewer accidents*
- ▶ *SOP's when followed result in fewer variances or safety incidents*
- ▶ *Well trained employees have fewer safety incidents*
- ▶ *Eliminating or controlling hazards results in improved safety outcomes*
- ▶ **Team building and improved morale are results of successful safety and efficiency programs**





# AgriSphere, LLC

1.844.4AGSPHR

info@agrisphere.com

[www.agrisphere.com](http://www.agrisphere.com)



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Thank You!