ASSUMPTIONS KILL.

Adventures in Hazard Control

Christina Georghiou, CSP, MSOH
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Agenda

- What's Your Role(s) in EHS?
- Mitigating "SIF" Risk – *What Controls are Acceptable?*
- Common Assumptions
- Your Turn: Workplace SIF Accident Detective
- Key Takeaways / Lessons Learned

What is/are Your Role(s) in EHS?

POLICEMAN / ENFORCEMENT

The moving blade on this machine is not guarded.

You aren't following 29 CFR 1910.212(a)(1).

Here's your citation!

DETECTIVE

If there was a fixed guard, <u>how</u> could they have put their hand there?

Who saw it happen?

Why was the employee still working in the plant at 10 pm if they are first shift?

PARTNER / CONSULTANT

I'd recommend using an aerial lift rather than ladders since the workers need to have adequate movement to clean the sides of the ducting.

Let's look at some potential options.

MANAGER

I'm bidding out these hazardous waste contractors, and then I'll determine satellite locations and manage the routine waste collections and inspections.

I'll also conduct and record our employees' RCRA and DOT Hazmat training.

You likely wear multiple hats… *and make assumptions depending on those hats*!

SURVEY - What is your Primary Role?

POLICEMAN / ENFORCEMENT

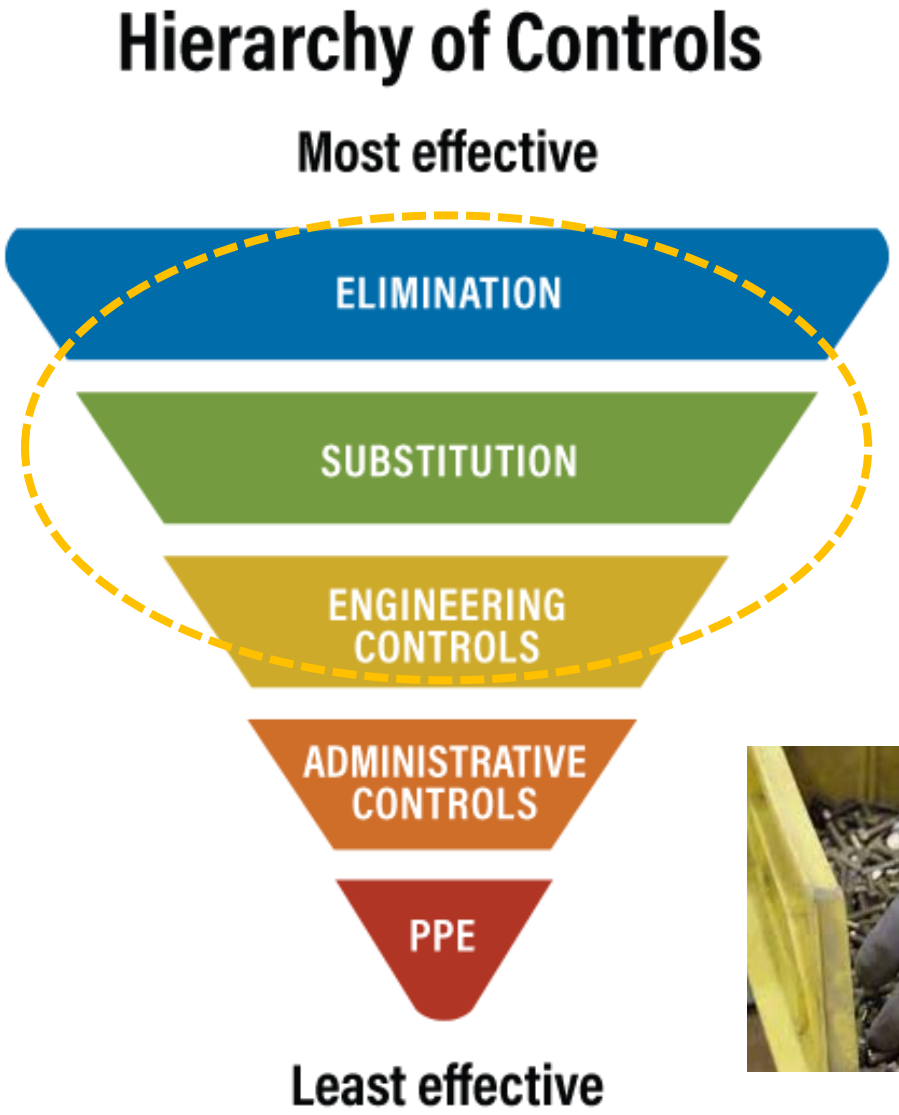
DETECTIVE

PARTNER / CONSULTANT

MANAGER

Mitigating “SIF” Risk

SIF Risk Activities – Are Your Controls Adequate for the Risk?



- SIF = Severe Injury or Fatality
- Equipment With SIF Risk is used more = Higher Probability of an Adverse Event
- Admin controls & PPE may reduce *likelihood* of occurrence, not Severity
- SIF risk ever-present for most **food manufacturing operations** (pasta, bread, ramen, meat, granola, sundries)

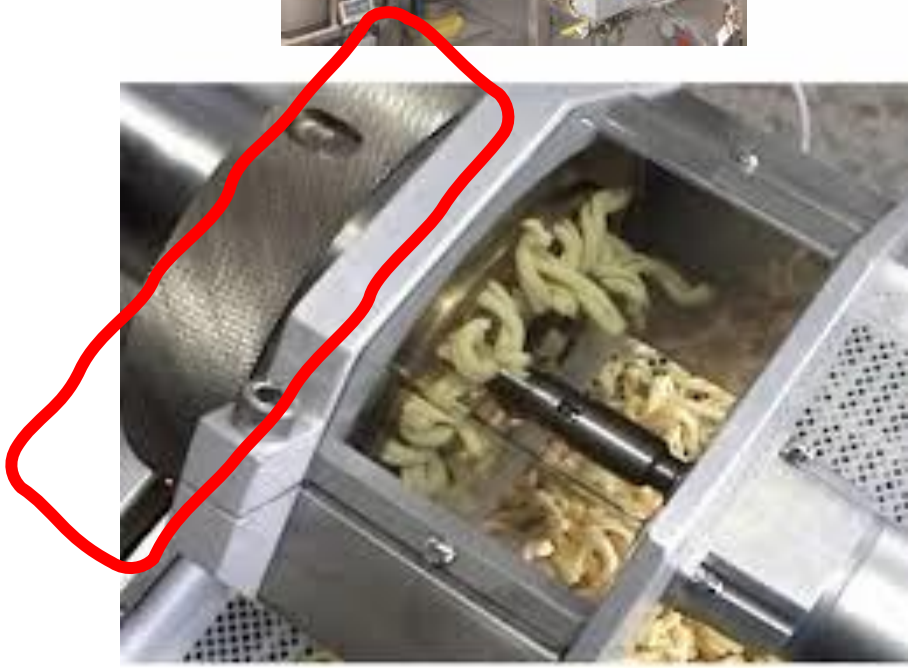
Common Assumptions Made in Safety

Assuming a Static Environment

"We have a dust collection system for our noodle manufacturing facility, and it is regularly serviced / maintained" - Production Manager

"I just reviewed the die-casting operations and have identified all the potential hazards during use of the machine." - EHS

- What happens during maintenance, or when the machine breaks? Does the machine undergo regular cleanings? What does this entail?
- What happens when production increases?
- DANGER EXAMPLES: Facility Fire from overloaded dust collection system following increased production, not identifying sanitation hazards (i.e. guard removal and cleaning) due to focus on operator hazards



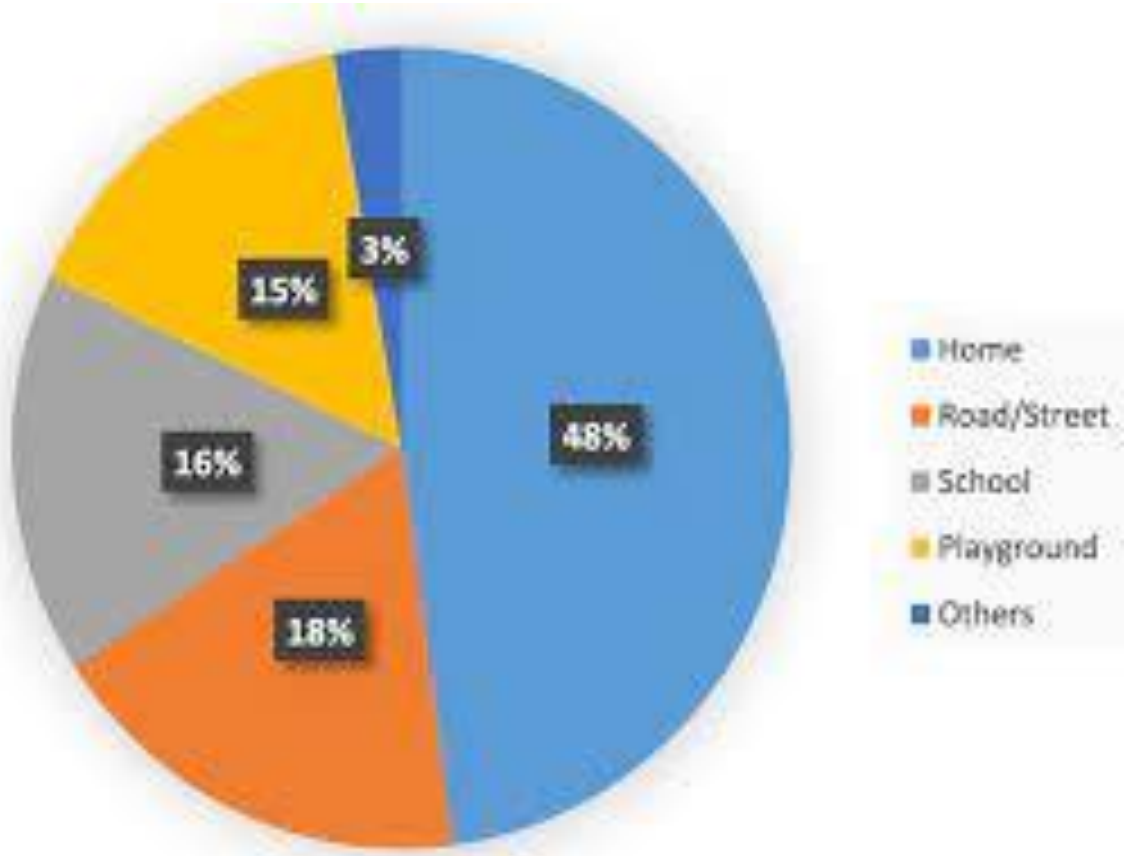
Assuming We / They are Subject Matter Experts

"I've been operating this production line for 15 years and I know the manual like the back of my hand… we've never once had a severe injury." - Machine Operator

- Assuming that **we** (EHS) are the "Subject Matter Experts" on someone else's job / job tasks
- Also… EHS assuming all **machine operators/workers** are "Subject Matter Experts" on the equipment they are using.
- DANGER EXAMPLES: Production Manager assuming her team knows an industrial mixer must be locked out during sanitation *and that they are actually doing this*

Assuming Injury & Near Miss Data = The Risks!

- Just because it hasn't happened yet, <u>doesn't mean it won't</u>
- Low Frequency Activities are often overlooked
- Initial Injury Analyses (Pie Charts, Pivots) often communicate frequency, NOT SEVERITY POTENTIAL
- DANGER EXAMPLES: Pie Charts generated for Safety Committee show that Injuries come from workers on the floor (STFs, Sprains / Strains), no injuries from Facilities Group (falls from elevation, amputations, electrocutions)



Assuming Trust by Affiliation / Reputation

*"Our company is **ISO 9001 / 14001 / 45001** certified. Our infrastructure effectively identifies SIF risk and prevents SIFs from occurring."*

*"We have established quality processes that identify safety risks – there's **no need for additional EHS review**."*

*"This machine is **brand new and state-of-the-art**… it's got all the interlocks, light curtains, fixed guards, etc."*

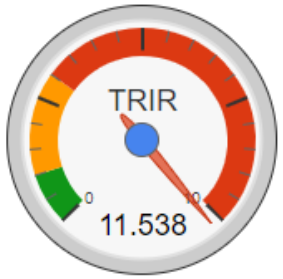
- DANGER EXAMPLES: Assuming other functions / operations adequately review equipment hazards and controls prior to purchasing (i.e. grinders, blenders, mixers, dryers)

Your Turn:
Workplace SIF Accident Detective

"XYZ Meats" Business Overview

- ~200 Employees
- In business 40 years
- Meat Processing Operations: Sausage Manufacturing, Sliced Meat Packaging, Jerky Manufacturing (*Cutting, Grinding, Cleaning, Tying, Lifting, Bending, Pushing, Pulling)*
- Equipment: Industrial Grinders, Industrial Conveyors, Industrial Packaging, Industrial Sausage Stuffers, Industrial Meat Slicers, Industrial Drying Ovens
- Injuries Summary (2018 – 2022) – an average of 24 recordables and 6 day away cases **per year (what's the TRIR?)**

Time w/Company	Group A
> 10 Years	20%
> 1 year < 10 Years	25%
< 1 year	35%
< 1 month	20%



Your TRIR = 11.5.

Accident @ The XYZ Meats Plant…

- Four employees working in the **industrial blending room**, where pre-ground meat is loaded into an **industrial blender** with spices and processed further.
- One of the employees standing on a platform **pouring meat and spices into the hopper** of the blender somehow had their **right arm pulled into the machine**.
- Employee began screaming for help, the other workers **hit the e-stop** on the controls but could not pull the employee from the machine.
- Finally an employee **flipped the electrical disconnect on the wall**, which disengaged the spinning ribbon in the machine allowing them to **pull the employee free**.
- **EMS arrived 10 minutes later**, and transported employee to a local hospital. The employee's **arm required amputation** above the elbow due to the extent of the muscle, bone and nerve damage.

Your Turn!

What questions would you ask? Of the Employer? Of the Workers?

- Training
- PPE
- Equipment
- Employees
- Other Factors???

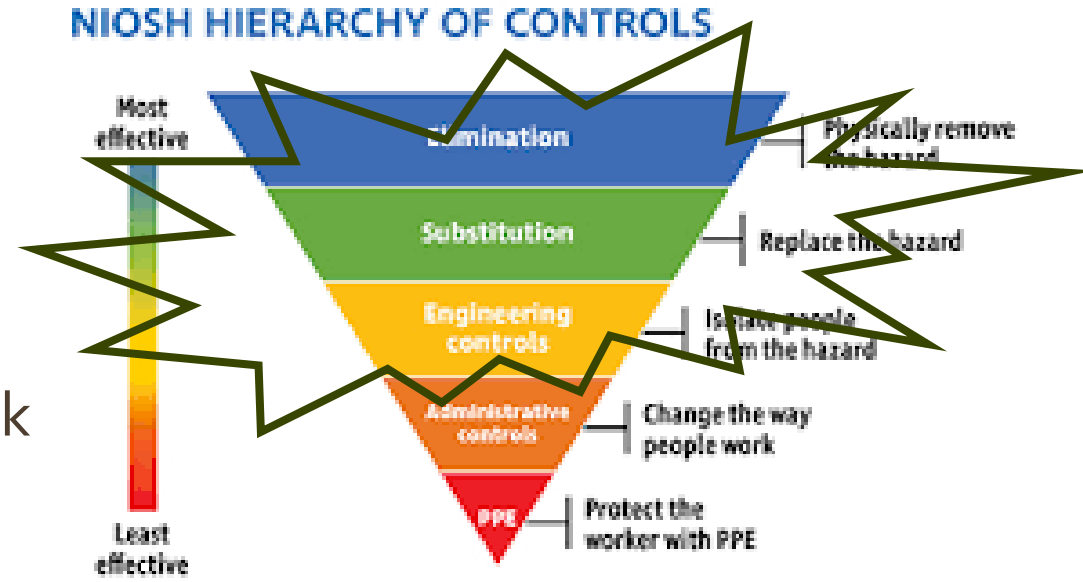
Investigation Discoveries

- Training
  - Employees had **no formal training** (yet) as equipment was brand new (1 week in use)
  - Lockout Procedures – **Not formally established,** no formal training
- PPE
  - Injured worker was wearing **high-dexterity gloves**
- Equipment
  - Employer had not analyzed **user manual** for this specific equipment
  - **Hopper Interlocked** to main control panel "ON" button
  - Two hand "jog" button controls **circumvent the interlocks on the hopper**
- Employees
  - Three other employees in room **were new** (< 30 days on the job), had been instructed to follow direction of injured employee
  - Injured employee was an experienced worker (15 years experience)

Multiple Layers of Failure (Training, LOTO, Equipment), but…

Primary Root Cause resulted from ASSUMPTIONS regarding equipment!

Injury Investigation - Lessons Learned



- **Hierarchy of Controls**
  - Protect employees <u>at all costs</u> when there is SIF risk through engineering controls (i.e. fixed guards on equipment, interlocks, light curtains)
  - Using Administrative Layers? **<u>Must be multiple & effective!</u>**
- Fully **Review Your Equipment Manuals** in Detail, **Pilot Equipment** with **Manufacturer's Rep** & Cover **Operation, Sanitation & Maintenance**
  - Ask, *is there a way an employee can reach into the machine / fall / be crushed?*

Injury Investigation - Lessons Learned

- Install **Engineering Controls** before equipment goes into use
- Formally **Train and Mentor Employees** (OJT) before they operate equipment
- Raise real **"worst case scenarios"** with management, talk lives & $$$
- **Is the possibility of death or disability an acceptable risk?**
  - Workers are all someone's Son, Mother, Father, Brother or Sister

Key Takeaways / Lessons Learned –
Don’t Make Assumptions

Don't Make Assumptions About…

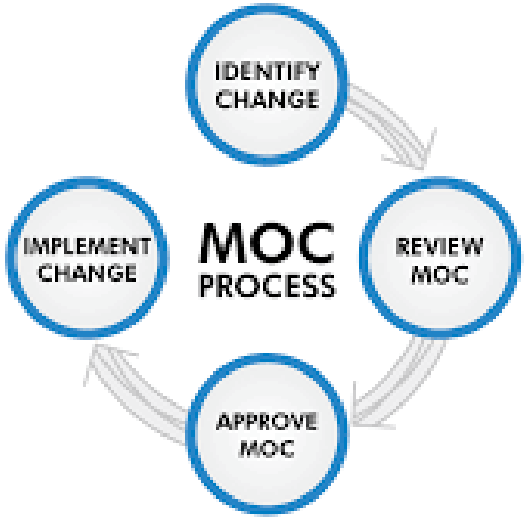
- **PEOPLE**
  - **Build Trust & Empathy** by listening, learning, and understanding
  - ***Management* –** Know the business' non-EHS challenges to show how safety's interests are aligned (budget, cost, production)
  - ***All Employees* –** Making them feel heard will help us differentiate "*what they say they're doing"* vs. "*what they're really doing"*
- **EQUIPMENT**
  - **Old + No Injuries = SAFE? New = SAFE? Not necessarily…**
  - **TRUST the safety controls, but VERIFY in person** and through equipment specs, machine manuals, research
  - Fully Assess the **equipment's lifecycle** (installation, machine operators, sanitation, PMs / Maintenance) to identify the SIF Risks

Fatality of 18-year old with Industrial Meat Grinder (Philippines, 2019)

Man Loses Arm to Industrial Grinder (San Luis Obispo, 2015)

Don't Make Assumptions About…

- **PROCESSES**
  - **The Forest –** Note down **all of your tasks and risks** at a high level
  - **The Trees – Identify the SIF Potential Activities…** are current controls adequate based on the level of risks? Prioritize Elimination, Substitution & Engineering Controls for SIFs
  - **Revisit your Risk Assessments Routinely** to ensure 1) current SIFs are adequately controlled and 2) no new SIF risks have emerged
- **ENVIRONMENT**
  - **Keep your pulse on your facility's changing environment** (increased production, employee attrition) and consider **Management of Change (MOC)** processes to ensure all orgs (Fac, Manuf, Prod, HR) and levels are engaged in managing change – not just safety. **Be a PARTNER in exploring & adopting effective solutions.**



Carmen Lindhardt (Mom) fatally Wounded by Industrial Mixer at Reem Foods (Utah, 2016)

Carlos Lynn decapitated while performing maintenance on chiller at Tyson Foods (Alabama, 2020)

Scott Parker Jr. crushed to death by automated palletting machine at Schreiber Foods (Missouri, 2024)

Promote an Educated & Empowered Culture Of:
"Always Do The Right Thing & Speak Up"

Their lives depend on it!!!