Incident Investigation

What does a thorough incident investigation look like and what purpose does it serve?

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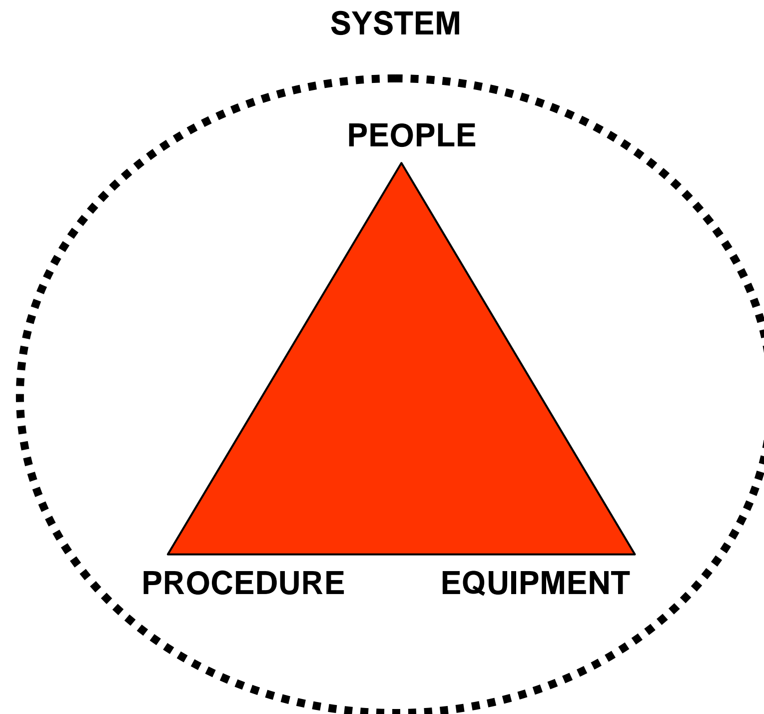
Definition

- Incident: unplanned or unintended occurrence that caused or had the potential to cause injury, illness, property, material and/or environmental damage



Incident Investigation Purpose

- Fact finding, not fault finding
- Learn what, how and WHY it happened to prevent repeat occurrences

All Incidents Need to be Investigated

- Near miss events and small incidents
  - Potential for injury or loss
  - Might have different consequences another time
  - Treated as if injury or loss had occurred

Date: ____________________________ Time(s) : ______________________ am / pm

Name of Person(s) Reporting Odor: ____
Odor Report Received By:____
Location Of Odor(s) Reported: ____

Text Message Alert(s) Received By: (25 ppm and above)____
Location of Text Alert(s):____
Responder(s):____

Ammonia Concentration Reading(s) : ______________________PPM
Method(s) to Determine PPM: Manning____Portable Manning____Other__________

Was Odor Report/ Notification Alert(s) Valid:___________________________________
If No, Explain:____
Cause:____

Actions Taken If Required (corrective or preventive):____

Comments:____
____

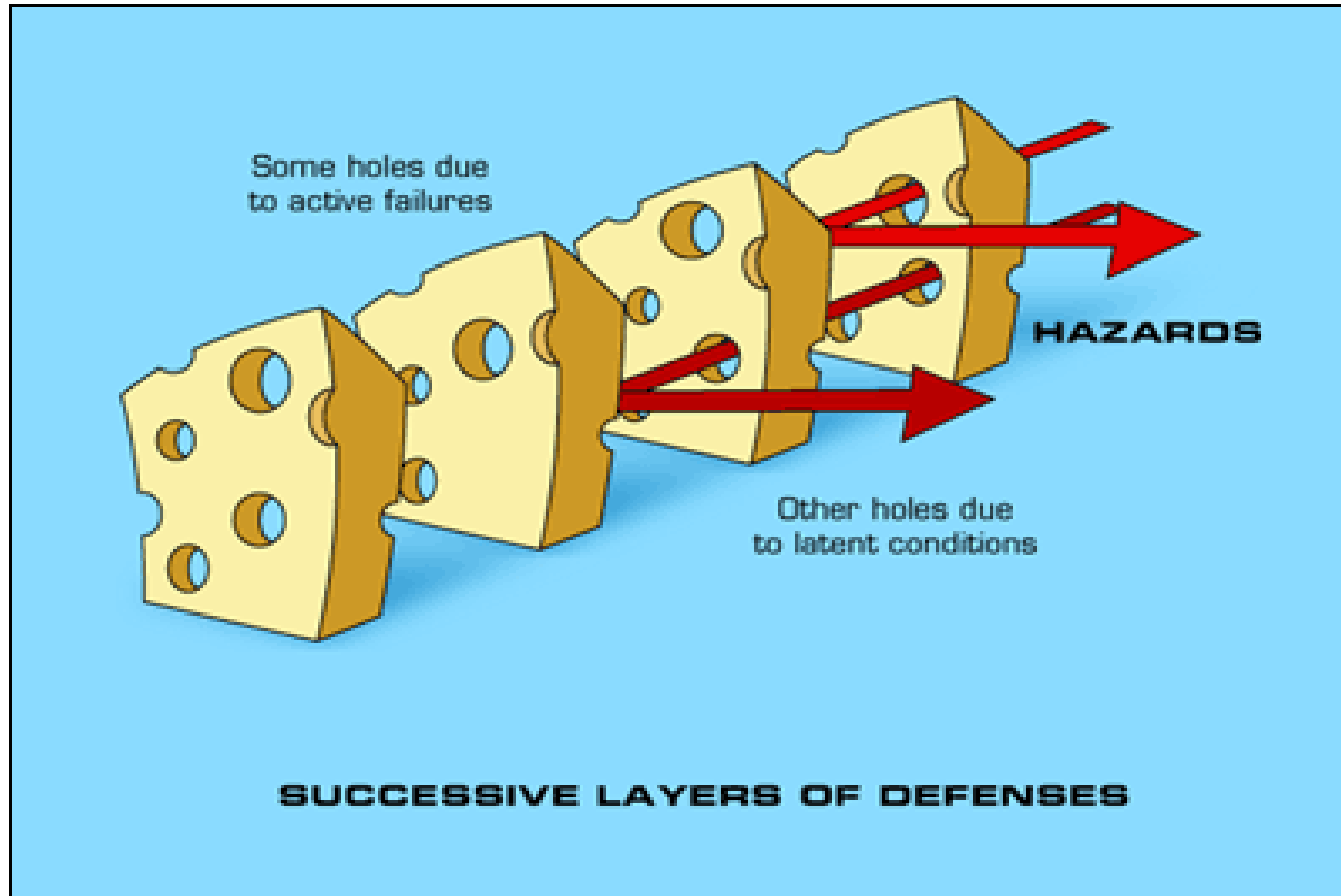
Follow-Up:

Estimated Loss: ______Pounds Of NH_3 **Immediately Report loss Of 100 Lbs Or Greater To Refrigeration Manager, Engineering Director and Environmental/Safety Manager.**

After repairs are completed, contact personnel in the work area affected by the odor to make them aware of the repairs and have a representative(s) sign below:

Signature of Employee who reported the Odor/Alert:__________________________Date:__________
Signature of Employees Supervisor:______________________________________Date:__________
Signature of Employee who investigated the Odor/Alert:_______________________ Date:_________
Signature of Ammonia Refrigeration Manager/Supervisor:______________________Date:__________

Professor James Reasons Swiss Cheese Model of Error



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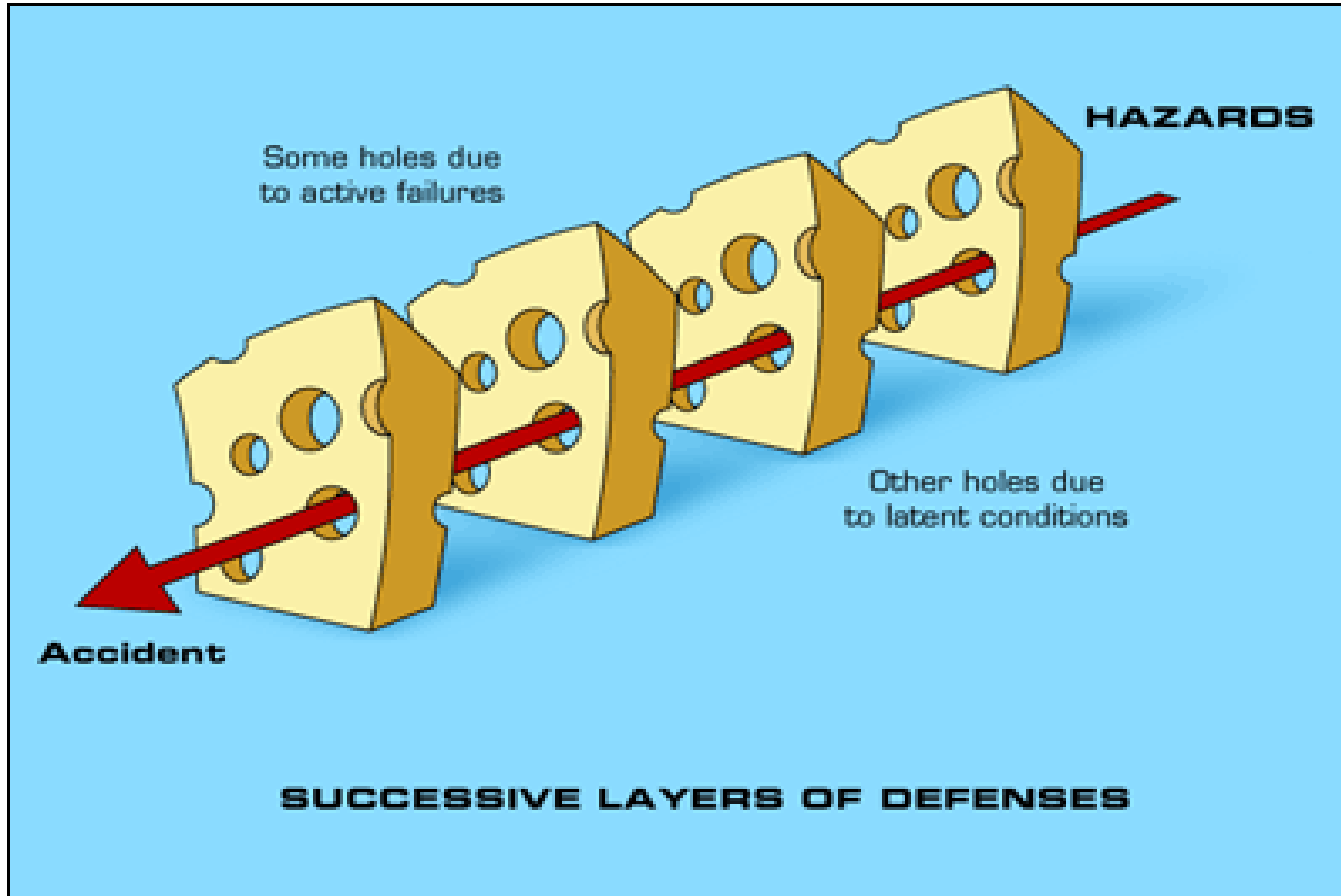

Benefits, Roles & Attributes of an Investigation Team

What type of team am I looking for?

The Benefit and Role of the Team

- Investigations, small or large, benefit from a team approach
- Size / Composition will depend on severity of the incident / complexity
- Benefits include:
  - Different perspectives
  - Constructive critique
  - Shared workload
  - Shared learnings

Lead Investigator Role

- Direct / manage the team
- ID and control access zones
- Principle spokesperson
- Prepares reports
- Sets task priorities, schedules meetings
- Organizes witness interviews

What attributes would you look for in a lead investigator?

Wanted: Lead Investigator With The Following Qualities

- Objective, independent, competent in administrative, managerial and investigative skills
- Effective communicator
- Interpersonal skills to handle strong personalities / sensitive to others emotions
- Can influence at several levels in the Company

What do you look for in a investigation team member?

Team Member Attributes

- Open, logical mindset
- Questioning attitude
- Knowledge/experience with the facility
- Thorough
- Effective communicator
- Respectful of others

Investigation Guidelines & Process

Aim of Investigation

1. Collect the facts
2. Determine the causes
3. Root Cause ID
4. Recommendation generation and implementation

What Can I Do To Prepare?

- Preparation is the key
- In the heat of the moment you do not want to be shuffling to gather your tools
- Consider having a bag loaded with tools:
  - Camera
  - Flashlight
  - Interview guidelines/sheets
  - Tape recorder for notes
  - Company forms

You Received the Call To Duty

- Get the What, When, Where
  - Activate in-house / agency notifications as required
- Determine status of incident
- If appropriate, request to preserve incident area
- Start to define the scope of the investigation

On-Site: Timing

- Investigation should start as soon as possible (no later than 48 hours)
  - The cause may still be present
  - Scene may change
  - Witness may not be as clear on facts as time progresses

On-Site: Gathering Information

- Get witness statements, interviews and reports
- Start to gather docs containing:
  - Normal operating procedures
  - Flow diagrams
  - Operator logs
  - Inspection / monitoring records
  - Alarm logs

On-Site: Gathering Information

- Keep notes
- Record pre-incident conditions, sequence of events
- Collect physical evidence
- Photograph site, equipment involved

On-Site: Interviewing Witnesses

- Interviewed in private not as a group
- Explain that frank and honest statements will assist in preventing recurrence
- Questions should be open
  - "Tell me what you saw"
  - Avoid yes / no answers
- Avoid questions that suggest blame to interviewee
- Allow witness to read notes and sign
- Thank them and invite further input if something comes to mind

On-Site: Event Timeline

- Start to group information from the many sources to create an event timeline

7:00 AM	Ammonia truck arrived on-site
7:30 AM	Driver completed safety checks on truck
7:45 AM	Completed off loading checklist
8:00 AM	Started to charge system
8:17 AM	Whooshing noise heard by many witnesses

Determine Cause: Meetings

- Set / write-up ground rules
- Use a flat surface to place sticky notes
- Record notable event / statement on sticky notes
- Encourage open dialogue
- Ask team members to identify primary causes
  - Theme is prevention, not blame

Determine Cause: Root ID

- Understanding WHY it occurred is the key to develop effective recommendations
- Most causes are identified where most stop asking WHY?

Example: An occurrence where an operator is instructed to close valve A; instead he closes valve B. What would a typical investigation conclude the cause was?

Determine Cause: Root ID

- Probably conclude operator error
  - Accurate description of what happened and how
- Not probed deeply enough to understand the reasons for the mistake
  - Do not know what to do to prevent recurrence

Solutions & Recommendations

- What do you think the recommendations from the example investigation would be?
  - Retrain the operator on the procedure
  - Remind operators to be alert when manipulating valves
  - All personnel should maintain careful attention to the job at all times

Such recommendations do little to prevent future occurrences.

Solutions & Recommendations

- To find useful solutions, should ask:
  - Was the procedure confusing?
  - Were the valves clearly labeled?
  - Was the operator familiar with this particular task?
- Answers to these will help prevent future occurrences
  - Revise procedure; perform procedure validation to ensure correct valve tagging, etc.

Solutions & Recommendations

- Provide solutions for each cause
  - Use a brainstorm style, don’t be too strict
- Don’t stop with your favorite solution
- Consider solutions that add value
- Ensure solutions are within your goals / objectives

Recommendation Implementation

- Develop a corrective action plan
  - Specific actions assigned to individuals with realistic due dates
- May be required to complete actions prior to returning to normal operations
- Actions tracked to completion
- Monitor effectiveness of implementation; look for ways to improve

Reports

- Results of the investigation should be shared with all employees
- Sharing with other sites may help others eliminate potential exposures without paying the price of an incident.

Remember, the primary purpose of incident investigation is to prevent further incidents.

Questions?