

## 301: Risk Management 2

Energy and Utilities  
APPA Institute for Facilities Management  
September 2019

Jeff Zumwalt



1

---

---

---

---

---

---

---

---

## Managing Risk – Activity Approach

1. Identify risky activities
2. Determine failure modes
3. Use risk matrix to prioritize
4. Develop solutions for high risks
5. Mitigate high risks - if possible
6. Communicate high risks that can't be mitigated



2

---

---

---

---

---

---

---

---

## Activity – Hospital Helipad



3

---

---

---

---

---

---


---

---

**Risk Assessment**

Types of Risk - PEAR

- People
- Environment
- Assets
- Reputation



APPA

---

---

---

---

---

---

---

---

**What are the risks?**

- People
- Environment
- Assets
- Reputation

**1 - 2 - 4 - All**

- a. Individual - 1 minute
- b. Pair Up - 2 minutes
- c. Table - 4 minutes
- d. All - 5 minutes

APPA

---

---

---

---

---

---

---

---

**Risk Assessment**

<p>Impact Factors:</p> <ul style="list-style-type: none"> <li>■ Permanence</li> <li>■ Financial</li> <li>■ Reputation</li> <li>■ Cascading</li> </ul> <p>Rank (0 -10)</p>	<p>Probability Factors:</p> <ul style="list-style-type: none"> <li>■ Location</li> <li>■ Experience</li> <li>■ Knowledge</li> <li>■ Condition</li> </ul> <p>Rank (0% - 100%)</p>
---	--

APPA

---

---

---

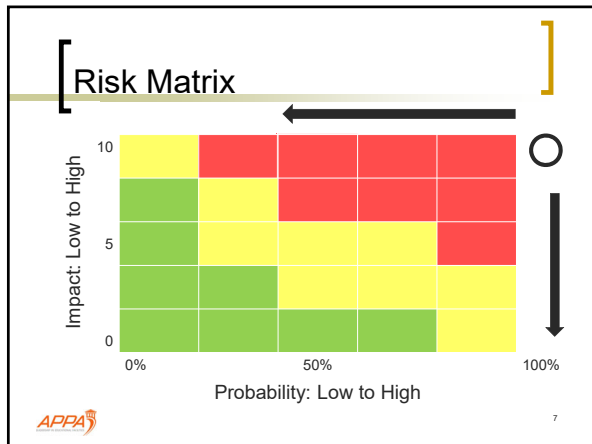
---

---

---

---

---




---

---

---

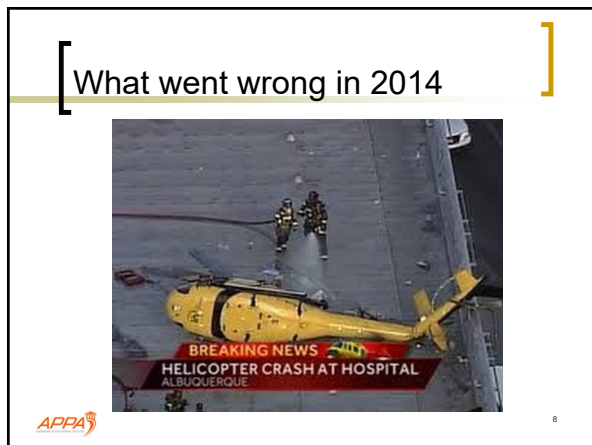
---

---

---

---

---




---

---

---

---

---

---

---

---




---

---

---

---

---

---

---

---

## Managing Risk – Process Approach

1. Identify your most critical processes
2. Determine failure modes
3. Use risk matrix to prioritize
4. Develop solutions for high risks
5. Mitigate high risks - if possible
6. Communicate high risks that can't be mitigated



10

---

---

---

---

---

---

---

---

## Process – Heating the Campus



11

---

---

---

---

---

---

---

---

## How can the process be interrupted?

- Deliver fuel to the boiler
- Burn fuel to make steam
- Distribute steam to buildings
- Return hot water to boiler

### 1 – 2 – 4 – All

- a. Individual – 1 minute
- b. Pair Up – 2 minutes
- c. Table – 4 minutes
- d. All – 5 minutes



---

---

---

---

---

---

---

---

## Risk Assessment

Impact Factors:

- Permanence
- Financial
- Reputation
- Cascading

Rank (0 -10)

Probability Factors:

- Location
- Experience
- Knowledge
- Condition

Rank (0% - 100%)



13

---

---

---

---

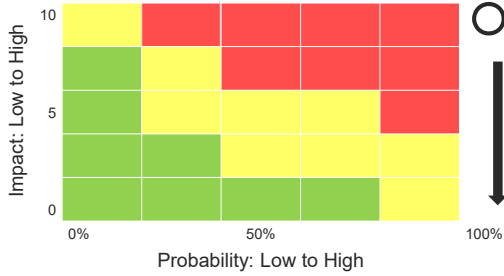
---

---

---

---

## Risk Matrix



14

---

---

---

---

---

---

---

---

## What went wrong in 2011

SANTA FE NEW MEXICAN

66th EDITION | ART | HOW TO | ADVERTISE | SUBSCRIPTIONS | CALENDAR | NEWS TIPS | CONTACT | HELP

Lessons learned in aftermath of natural-gas crisis

New Mexico Gas officials look for answers to avoid similar crisis in future

Read More! The New Mexican | Fall 13, 2011 | 10



Tracking the natural-gas outage




---

---

---

---

---

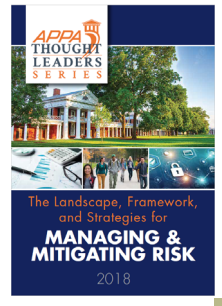
---

---

---

Questions, Comments, Observations?

- Sign-in Sheet & Evaluations



<https://www.appa.org/Research/CFaR/tls.cfm>



---

---

---

---

---

---

---

---