



[301: Risk Management 2]

Energy and Utilities
 APPA Institute for Facilities Management
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[AIA Information]

Credit(s) earned on completion of this course will be reported to American Institute of Architects (AIA) Continuing Education Session (CES) for AIA members.

Certificates of Completion for both AIA members and non-AIA members are available upon request.



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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

[Course Description]

The production and distribution of utilities has an inherently high element of risk. Failures in utility systems often result in damaged assets and, in rare cases, injuries to the campus community. This course provides a framework for identifying and categorizing risks in a utility environment. However, the principles are applicable to managing and minimizing risk in any setting.

[Learning Outcomes]

Learning Objective 1:
Discuss the high element of risk in the production and distribution of utilities.

Learning Objective 2:
Discuss utility failures that often result in damaged assets.

Learning Objective 3:
Learn the framework for identify and categorizing risks in a utility environment.

Learning Objective 4:
Discuss the principles that are applicable to manage and minimize risk in any setting.



[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



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[Activity – Hospital Helipad]




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[Risk Assessment]

Types of Risk - PEAR

- People
- Environment
- Assets
- Reputation



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[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

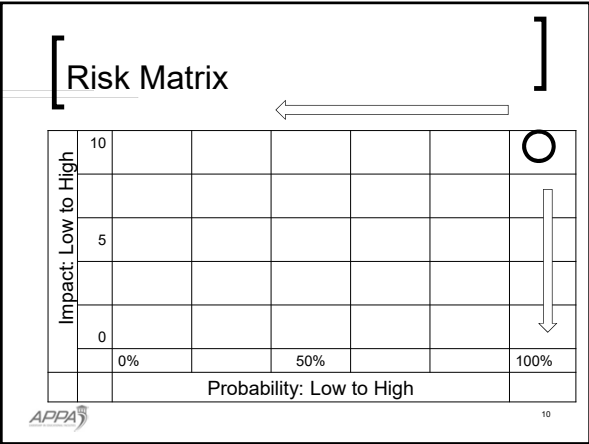
d. All - 5 minutes

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[Risk Assessment]

Impact Factors:	Probability Factors:
■ Permanence	■ Location
■ Financial	■ Experience
■ Reputation	■ Knowledge
■ Cascading	■ Condition
Rank (0 -10)	Rank (0% - 100%)

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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



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Process – Heating the Campus



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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: Probability Factors:

- Permanence ■ Location
- Financial ■ Experience
- Reputation ■ Knowledge
- Cascading ■ Condition

Rank (0 -10) Rank (0% - 100%)

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[Risk Matrix]

Impact: Low to High	10						○
	5						
	0						↓
		0%		50%		100%	
	Probability: Low to High						

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[What went wrong in 2011]

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Lessons learned in aftermath of natural-gas crisis
 New Mexico Gas officials look for answers to avoid similar crisis in future

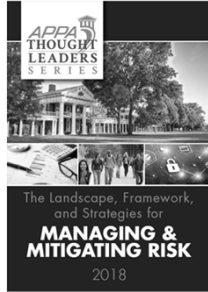
Read More! The New Mexican | Fall 13, 2011 | 100

Tracking the natural-gas outage

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Questions, Comments, Observations?

- Sign-in Sheet & Evaluations



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



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