


301: Risk Management

Energy and Utilities
APPA Institute for Facilities Management
September 2019


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Overview


- Provide an overview of basic risk management concepts
- Review how risk management applies to various components of Utilities and Energy Management



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Discussion

- Have you experienced a catastrophic failure in your career?
- What happened and what steps did you take to prevent recurrence?



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[General Concepts]

Risk

- The hazard or chance of loss - Impact and Probability

Risk Management

- Identify risks
- Categorize and rank risks
- Mitigate risks

APPA 4

[Risk Assessment]

Types of Risk - PEAR

- People
- Environment
- Assets
- Reputation



APPA 5

[Risk Assessment]

Impact Factors:


- Permanence or Restorability
- Financial
- Reputation
- Cascading

APPA 6

[Risk Assessment]


Probability Factors:

- Geographic/Location
- Experience
- Knowledge/Skill Level
- Condition of Equipment

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[Risk Assessment]


- Understand how your institution perceives and manages risk
- Integrate your approach to align with institution
- Collaborate

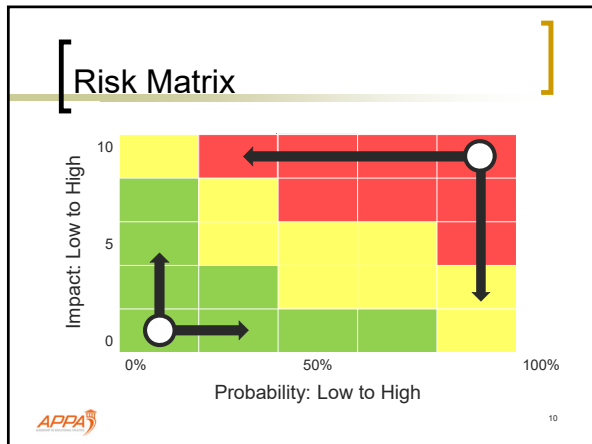
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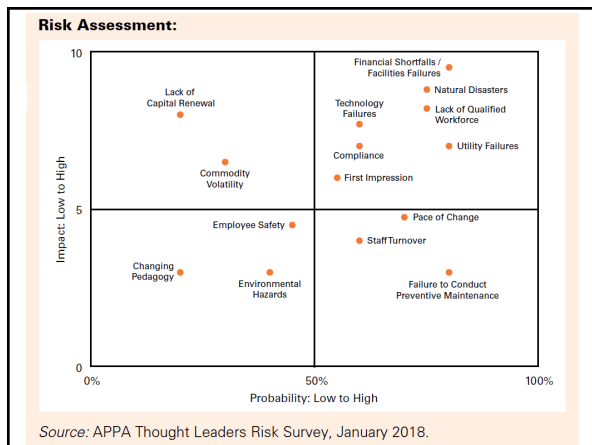
[Risk Assessment]

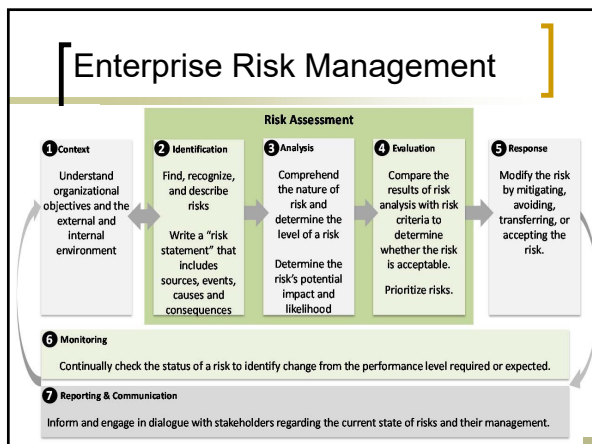
Two Common Approaches:

- Basic Risk Matrix
 - relatively easy
 - can be “internally” developed
- Enterprise Risk Management (ERM)
 - more complex
 - often compiled by Audit Office

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Risk Mitigation

- **Reduction** – reduce impact or probability
Replace susceptible equipment
- **Control** – minimize damage
Plan for backup housing
- **Transfer** – assign responsibility to others
Get insurance
- **Acceptance** – live with the risk
For “low impact/low probability”
- **Avoidance** – stop doing the risky activity



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Understanding Your Context

- National
- Regional
- State
- Local
- Campus

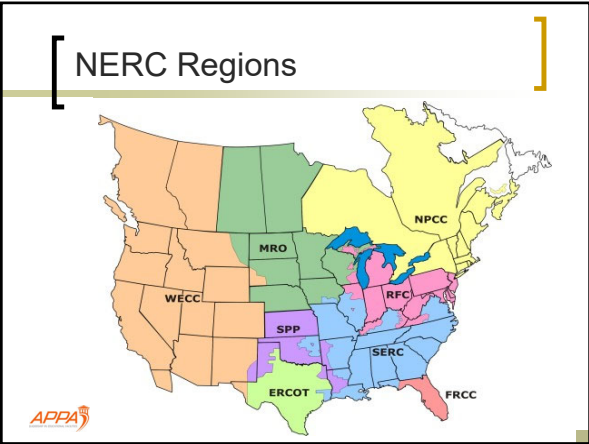


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American Society of Civil Engineers (ASCE)

Report Card on America's Infrastructure = D+

Energy	D+	Schools	D
Parks & Rec	C-	Transit	D
Roads	D-	Rail	C+
Ports	C	Inland Waterways	D-
Bridges	C+	Aviation	D
Waste Water	D	Solid Waste	B-
Levees	D-	Hazardous Waste	D
Drinking Water	D	Dams	D



ASCE Report on Infrastructure by State

	National	TX	PA	FL
Overall	D+	C	C-	C
Energy	D+	B+	C	C+
Drinking Water	D	D-	D	C+
Wastewater	D	C-	D-	C

- ### Risk Management – Desired Outcomes
- **Reliable** – rarely fails
 - **Redundant** – backup options
 - **Resilient** – recover quickly/seamlessly
 - **Efficient** – minimize waste

Roles and Responsibilities

The Institution

- What comprises risk
- Acceptable levels of risk
- Resources provided for mitigation

Facilities Management

- Identify and communicate facility risks
- Outline solutions and costs
- Insure effective implementation



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Risk Management Session 2

Group Exercise Tuesday



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Managing Risk

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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Questions, Comments, Observations?

- Sign-in Sheet & Evaluations
- Related Electives
 - 363 – *Disaster Prep and Business Continuity*
 - 373 – *Energy Conservation*
 - 325 – *Electrical Systems - Planning, Reliability, and Safety*

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

