301: Risk Management

Energy and Utilities
APPA Institute for Facilities Management

Brett Garrett
Jeff Zumwalt

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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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General Concepts

Risk

- The hazard or chance of loss - Impact and Probability

Risk Management

- Identify risks
- Categorize and rank risks
- Mitigate risks

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Risk Assessment

Types of Risk - PEAR

- People
- Environment
- Assets
- Reputation

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Risk Assessment

Impact Factors:

- Permanence or Restorability
- Financial
- Reputation
- Cascading

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Risk Assessment

Probability Factors:

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

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Risk Assessment – Your Role

- 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
  - -Audit/Compliance Office

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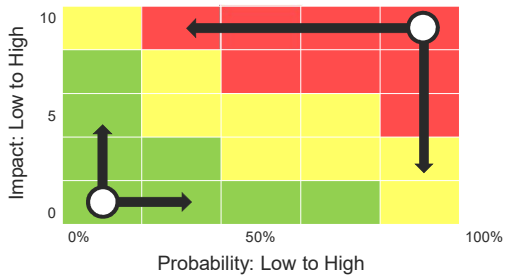
Risk Matrix



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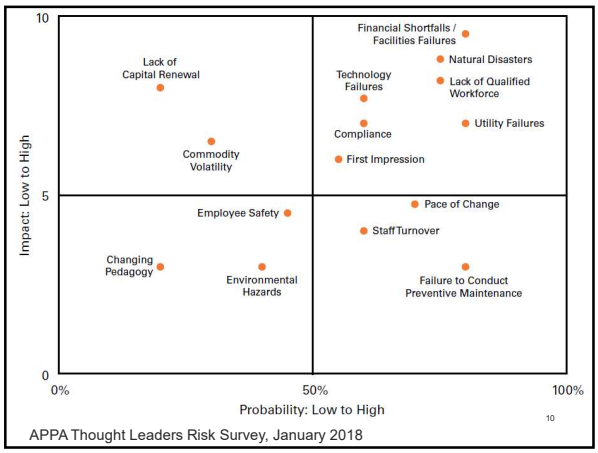

APPA Thought Leaders Risk Survey, January 2018

Enterprise Risk Management

Primary Categories

- Health and Safety
- Reputation
- Operational
- Strategic
- Compliance
- Finance

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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)

National Report Card in 17 categories = C-

Drinking Water	D	Schools	D+
Storm Water	D	Transit	D-
Waste Water	D+	Dams	D
Solid Waste	B-	Energy	C-
Roads	D	Bridges	C

https://infrastructurereportcard.org/

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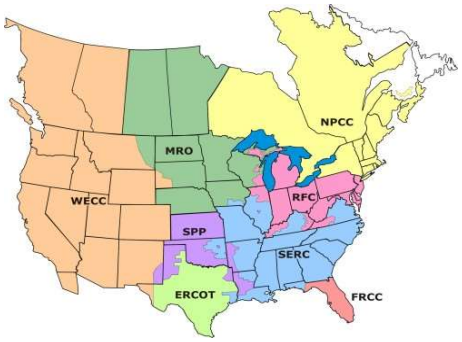
NERC Regions



Risk Management – Desired Outcomes

- **Reliable** – rarely fails
- **Redundant** – backup options
- **Resilient** – recover quickly/seamlessly
- **Efficient** – minimize waste

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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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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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Risk Management Session 2

Group Exercise after the break

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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