


**[ 301: Risk Management ]**

Energy and Utilities  
APPA Institute for Facilities Management

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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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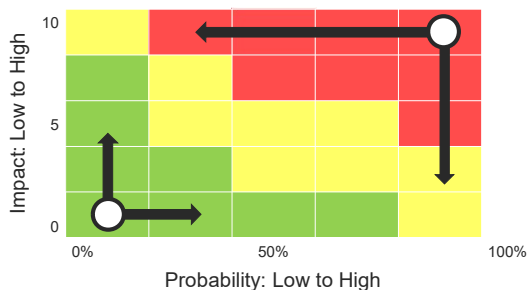
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## Risk Matrix



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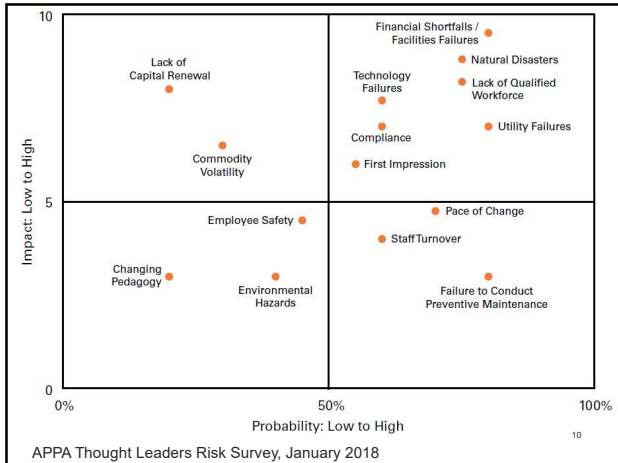
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## Enterprise Risk Management

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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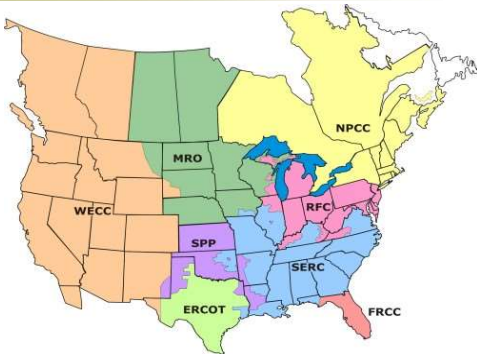
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## NERC Regions



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**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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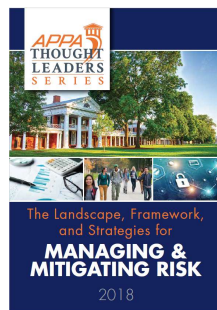
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## Questions, Comments, Observations?

- 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>



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