Workshop #2 for A.15-05-002, et al.

Steven Haine, P.E.

Senior Engineer, Risk Assessment Section (SED)

California Public Utilities Commission

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Safety and Emergency Information

- In the event of an emergency, please proceed calmly out the exits.
- The Temporary Evacuation Location has been relocated to the Civic Center Plaza.
- It is located on the other side of City Hall. Exit the building at Van Ness and McAlister streets and walk past City Hall.

Practical Information

WiFi Access:
***login:* guest**
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Restrooms:
out the Hearing Room doors and down the far end of the hallway.

- Call in information:
- Phone line: 1-866-859-2737
  Participant code: 1682922

- WebEx:
  https://van.webex.com/van/j.php?MTID=m4df3d3b0430c49248d42358e0197dba9
  Meeting Number: 747 669 862
  Meeting Password: Smap2015!

Workshop #2 Objectives

- Status update from Risk Lexicon Working Group
- Consideration of common risk management standards used for judging utilities' risk management programs
- Detailed discussion of utilities' risk-informed decision-making approach
- Detailed discussion of utilities' risk models
- Prioritization of mitigations, cost effectiveness, optimization of portfolio
- What elements in risk models should be made uniform?
- Data issues

Consideration of Risk Management Standards

- ISO 31000 deals with risk management
- ISO 55001 deals with asset management
- Is the Cycla 10-step process alone sufficient to judge a utility's risk-based resource allocation process?
- Or, are there elements in either ISO standard that should be adopted in addition to using the Cycla process?

Issues to Consider in Risk Management Standards

- Perspective – risk from whose perspective? Utility shareholders, ratepayers, public at-large, regulators.
- Risk mitigation for whose benefit? Utility shareholders, ratepayers, public at-large, regulators.
- Primary beneficiary vs. secondary or peripheral beneficiaries. There is asymmetry in benefit to different beneficiaries. Asymmetry could possibly lead to conflicting outcomes.

Detailed Discussion of Utilities Risk-informed Decision-making Approach

- How does risk-informed decision-making work at each utility? Differences and similarities.

- Still largely a blackbox – weakly transparent linkage based almost entirely on judgment between threat identification step and eventual total investment portfolio proposal in rate cases.

- How to improve transparency in the process? What additional documentations do intervenors seek?

Detailed Discussion of Utilities' Risk Models

- Common elements: 7x7 matrix, relative-risk ranking method, not based on probabilistic distributions.
- Strengths: relative-risk models good at highlighting most significant threats.
- Weaknesses: relative risk models produce scores that have no stand-alone interpretation in real-life. Impossible to gauge actual physical impact of the risks or risk mitigations.

Detailed Discussion of Utilities' Risk Models

PG&E

$$RS_{(Event)} = k^{[0.5\ \mathrm{Log}(f_{(Event)}) + I_{(Event)}]}$$

SCE

$$RS = TEF * CP * 10^{CI}$$

SDG&E

$$\text{Risk score} = \sum_{i=1}^{n} weight_i * frequency_i * 10^{impact_i}$$

Prioritization of mitigations, cost effectiveness, optimization

- Prioritization of risk mitigations is not same as optimization. A portfolio can be prioritized based on risk scores but yet may be sub-optimal.
- How to compare “cost effectiveness?” Need definition or metric. Risk spend efficiency (SCE approach) is one candidate method, but it has flaws.
- What to consider in optimization?

What Risk Model Elements Can Be Made Common?

- Pros and cons of imposing common elements.
- Pros: Ability to interpret risk score results across utilities even with relative-risk method.
- Cons: Utilities claim uniqueness that makes imposing uniformity infeasible.
- Should there be a uniform risk model and a uniform risk formula?

Data Issues

- Data needed are dictated by the models

- Low frequency high consequence (LFHC) events are inherently challenging to have sufficient data on. This speaks for need for utilities to build common models so that they can share data on LFHC events.

- Different granularity of models, different definitions complicate data sharing. Example: Utilities may have different leak grading criteria and definitions.

- Is confidentiality of data an issue? How to address data confidentiality issue?

Next Steps

- SED releases Final Workshop 1 report (Sept. 30)
- Workshop 3 (October 6)
- SED releases Workshop 2 preliminary report (October 13)
- Comments due on Workshop 2 preliminary report (October 27)
- SED releases ALARP whitepaper (October)
- Workshop 4 (December 4)
- SED releases draft report (January/2016)

Thank You

For Additional Information:

www.cpuc.ca.gov/PUC/safety/Risk_Assessment.htm