



# Cycla's 10-steps for Risk-Informed Resource Allocation for Rate Cases

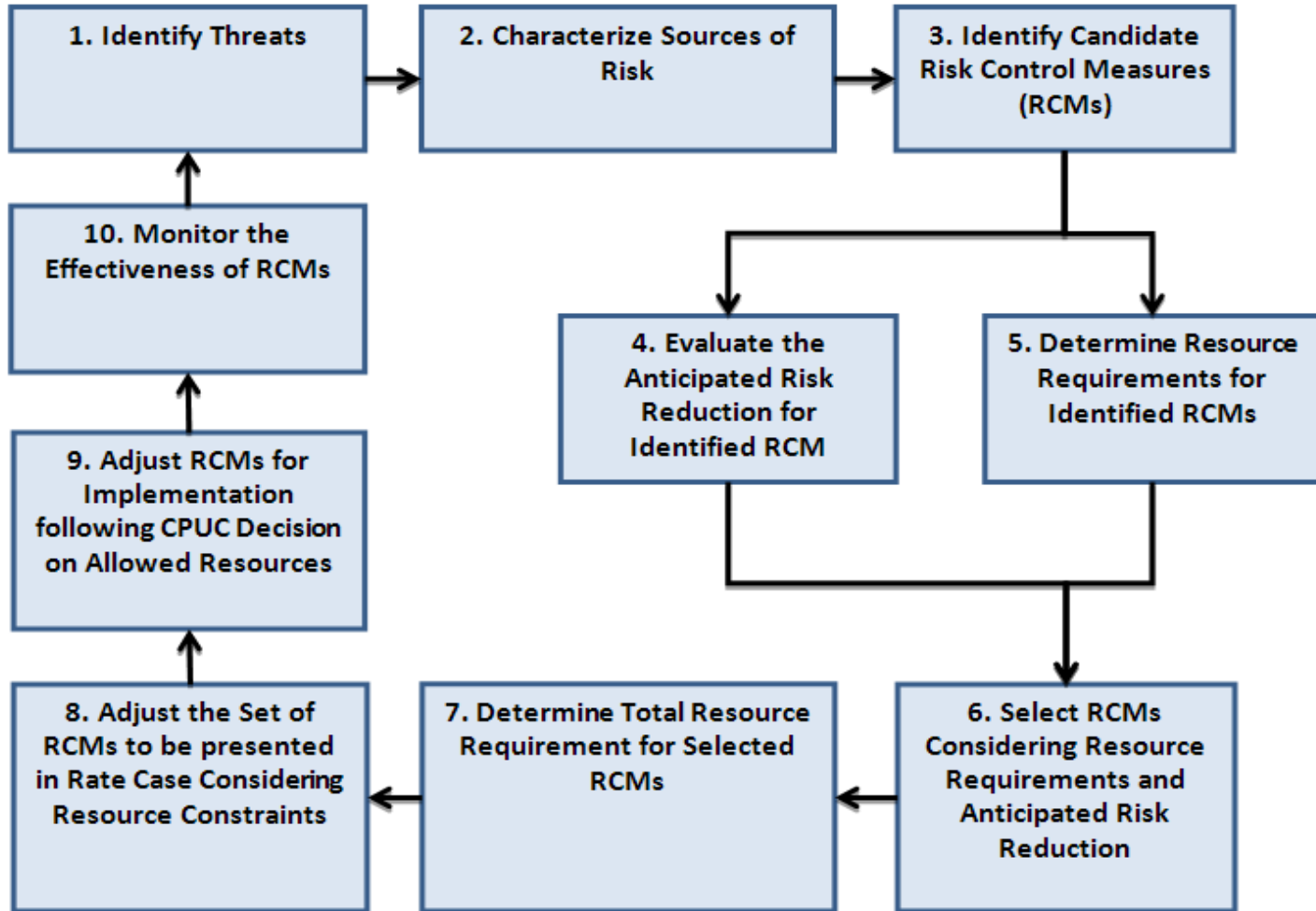


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## Cycla Corp's 10-step Risk-informed Resource Allocation Process



For all 10 steps: Document all steps and processes  
Goal: Consistency and Repeatability





# Step 1: Identify Threats

- Consider:
  - all credible and foreseeable threats
  - industry experience, unique company characteristics, and safety advisories
  - compounding effects from interacting threats
- Ongoing process
- Should have sufficient granularity of threats and assets. More granularity means more complexity but more powerful model. Limitation is availability of granular data.





## Step 2: Characterize Sources of Risk

Risk = frequency x consequence

- Evaluate data (internal and industry) for applicability. Data informed by root cause analysis and subject matter experts (SMEs).
- Consider asset conditions
- Validate risk against experience
- Consider effects from interacting threats
- Consider scenarios not experienced to-date





## Step 3: Identify Candidate RCMs

- Identify RCMs for each risk
  - RCMs based on industry best practices or current operator practices
  - Consider new technologies, safety findings, safety advisories
- Characterize anticipated effectiveness of each RCM
- Evaluate effectiveness of industry best practices in addressing risks





## Step 4: Evaluate Anticipated Risk Reduction for Identified RCMs

- Describe specifically how candidate RCM reduces risk
- Evaluate demonstrated or anticipated effectiveness of RCMs





## Step 5: Determine Resource Requirements for Identified RCMs

- Determine costs for implementation and maintaining individual RCMs
- Take into account implementation pace and operational constraints (also in step 8)





# Step 6: Select RCMs Considering Resource Requirements and Anticipated Risk Reduction

- Consider industry best practices
- Consider identified risks and costs of RCMs
- Selected RCMs must be consistent with:
  - pre-defined acceptable risk threshold (risk tolerance), or
  - desired performance relative to industry peers (ex. top quartile of industry)







## Step 7: Determine Total Resource Requirements for Selected RCMs

- Determine cumulative costs of all selected RCMs
- Step 7 is for the whole portfolio of all selected RCMs and not just individual identified RCMs (as in Step 5)





## Step 8: Adjust RCMs Considering Resource Constraints

- Develop risk management plan to include projects, schedules, and required resources
- Take into account operational and resource constraints, available personnel





# Step 9: Adjust RCMs for Implementation Following Rate Case Decision (for current rate case)

- Adjust implementation plan to maximize total system-wide risk reduction within revenue constraint
- Take into account operational and resource constraints, available personnel





# Step 10: Monitor Effectiveness of RCMs (for next rate case)

- Between rate cases identify metrics to gauge effectiveness of RCMs and impact on overall risks
- Change implementation of RCMs in next rate case based on their actual effectiveness





## Next Steps: How to apply the Cyclo criteria?

- CPUC staff writes evaluation report (ex. PG&E GT&S rate case)
- Commission hires consultants to evaluate each rate case (ex. PG&E GRC)
- Create pool of Independent Evaluators with utilities doing hiring and selection with Commission approval (ex. electricity procurement contracts under LTPP)
- Parties submit comments based on criteria





**For Additional Information:**

[www.cpuc.ca.gov/PUC/safety/Risk\\_Assessment.htm](http://www.cpuc.ca.gov/PUC/safety/Risk_Assessment.htm)

