Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 24, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Cybersecurity Safety

- “2,365 cyberattacks in 2023, with 343,338,964 victims” (Forbes)
- Use strong and unique passwords, enabling 2FA when possible.
- Keep software updated.
- Be careful around unfamiliar links and emails.

TWG Jan. 24th Agenda

Introductions	10:00 – 10:05 am
Purpose and Expected Outcomes of TWGs	10:05 – 10:10 am
RAMP and GRC Data Template: Southern California Electric (SCE) Presentation	10:10 – 10:30 am
Data Template Q&A: SCE	10:30 – 10:45 am
Data Template Guideline Q&A: SCE	10:45 – 11:05 am
Break	11:05 – 11:15 am

TWG Jan. 24th Agenda (Continued)

General Discussion: SCE Data Template	11:15 a.m. – 12:30 p.m.
Sempra Companies Presentation and General Discussion	January 27th
Pacific Gas and Electric Presentation and General Discussion	January 28th
Cal Advocates Presentation and General Discussion	January 29th
SPD Presentation and General Discussion	January 30th
General Discussion	January 31st

PURPOSE & EXPECTED OUTCOMES OF THE TWGs

Purpose & Outcomes for TWGs

- RAMP and GRC Data Templates
  - Allow parties to present their version of a data template and justification for the structure and fields within the template
  - Stimulate discussion on parties' data templates and data template guidelines
- Provide feedback on what fields, field descriptions and field value constraints the Commission should include within a data template and data template guideline.

Working Group Summary

- January 24: Pacific Gas and Electric
- January 27: Southern California Edison
- January 28: Sempra
- January 29: Pacific Gas and Electric
- January 30: Southern California Edison
- January 31: Sempra
- Working Group Recording on Youtube (3-4 days)
  - https://www.youtube.com/user/CaliforniaPUC

Party Proposal for RAMP and GRC Data Templates

Presenter: Southern California Edison

10:10 am – 10:30 am

SCE Data Templates Presentation

January 2025

Summary

Clarify Data Objectives – Understand what additional insights parties seek beyond what SCE has provided in existing RAMP Reports.

- SCE already provides the following as part of its RAMP Filing, including
  1) Data Templates
  2) Risk Models
  3) Supporting Workpapers
  4) RSE / BCR Calculation files

Managing Data Volume and New Information

- **Challenges of Data Volume**
  - SCE's 2022 RAMP RSE output file was ~1.2 GB with over 2.5 million rows.
  - Parties reported difficulties in opening such large files.
  - New requirements, such as the discount rate scenario, could significantly increase already existing large volume of data

- **Emphasis on Quality**
  - Prioritize quality and practical use of data over sheer volume

- **Defining New Templates Amid Changing Requirements**
  - Challenges in defining templates due to evolving RRU and RSAR requirements.
  - Ensure efficiencies and duplicitous efforts are minimized or eliminated.

Data Table Descriptions

Table Name	Description
Mitigation Modeling Inputs	• Shows mitigation effectiveness values at the driver/consequence level, including rationale/data sources. • Shows useful life with accompanying rationale.
Mitigation Costs and Work Unit Forecasts	• Shows forecasted spend, including foundational spend, and work units by year and tranche, as applicable
Baseline Risk Inputs	• Shows baseline risk driver frequency and consequence information by tranche, including data sources, as applicable.
Results	• Shows Benefit Cost Ratio by risk, control/mitigation, tranche, Scenario (Proposed, Alternative 1 or 2), Year, Discount Rate Scenario, Pre and Post mitigated risk, Net Present value of Benefits and Spend

Data Table #1 – Mitigation Modeling Inputs

Field Name	Field Description	Field Type
Control / Mitigation ID	The ID of the Control / Mitigation as it appears in the RAMP report.	Text (i.e. C1)
Control/Mitigation Name	The name of the control / mitigation as it appears in the RAMP report.	Text (i.e. Targeted Undergrounding)
Useful Life	The value used for the useful life of the applicable control / mitigation, typically represented as years.	Number (i.e. 10)
Useful Life Rationale	The rationale, including any data sources used to estimate the useful life of the control / mitigation.	Text
Driver Number	The number of the driver as used throughout the RAMP report.	Text (i.e. D1)
Driver ID	Any abbreviation or identification of the driver as used in the RAMP report. This could be formatted differently depending on the risk.	Text (Examples include: D-CFO, D1 – Seismic Event)
Sub-driver ID / Name	A sub-driver ID or name used in the RAMP report, as applicable. This could be formatted differently depending on the risk.	Text (For example D-CFO may have multiple CFO sub-drivers (vegetation, vehicle, animal)).
Mitigation Effectiveness Value (Driver)	The numerical value used in the risk analysis.	% from 0 – 100%.
Mitigation Effectiveness Value Rationale (Driver)	The rationale including any data sources used to estimate the mitigation effectiveness of the control / mitigation.	Text
Consequence Attribute	The consequence attribute. This could be Safety, Reliability, Financial or any other consequence attribute used in the risk analysis.	Text
Mitigation Effectiveness Value (Consequence)	The numerical value used in the risk analysis for each applicable consequence attribute.	% from 0 – 100%.
Mitigation Effectiveness Value Rationale (Consequence)	The rationale including any data sources used to estimate the mitigation effectiveness of the control / mitigation.	Text

Data Table #2 – Mitigation Costs and Work Unit Forecasts

Field Name	Field Description	Field Type
Risk	The name of the applicable RAMP risk.	Text (i.e. Wildfire)
Control/Mitigation ID	The ID of the Control / Mitigation as it appears in the RAMP report.	Text (i.e. C1)
Control/Mitigation Name	The name of the control / mitigation as it appears in the RAMP report.	Text (i.e. Targeted Undergrounding)
Tranche ID	The tranche ID designation used in the RAMP report.	Text or Number (i.e. Tranche 1, Tranche A)
Spend Category	The type of spend forecast. This could be Expense (O&M), Capital and/or Foundational.	Text
RAMP Estimate ($)	This would be the annual estimated spending amount including expense, capital and/or foundational costs per year per tranche as forecast in the RAMP report.	Number (i.e. $120,000)
RAMP Estimate (Work Units)	This would be the annual estimated work units as forecast in the RAMP report, as applicable.	Number (i.e. 1,200)
Unit Type	This would be a description of the work unit type, as applicable.	Text (i.e. Circuit Miles)
GRC Forecast ($)	This would be the annual forecast spending amount including expense, capital and/or foundational costs per year per tranche as forecast in the GRC.	Number (i.e. $120,000)
GRC Forecast (Work Units)	This would be the annual forecast work units as forecast in the GRC, as applicable.	Number (i.e. 1,200)
Variance (GRC less RAMP) for $ and Work Units	This would be the difference in both dollars and work units forecast in the GRC less the estimate in the RAMP report.	Number (i.e. $120,000 or 1,200)

Data Table #3 – Baseline Risk Inputs

Field Name	Field Description	Field Type
Tranche ID	The tranche ID designation used in the RAMP report.	Text or Number (i.e. Tranche 1, Tranche A)
Tranche ID Description	Brief description of the tranche as applicable.	Text
Tranche ID Exposure	The risk exposure by tranche. Includes a description of the units as applicable.	Text or Number (i.e. 1,200 employees, 106,000 circuit miles)
Driver ID	Any abbreviation or identification of the driver as used in the RAMP report. This could be formatted differently depending on the risk.	Text (Examples include: D-CFO, D1 – Seismic Event)
Driver Frequency Data Source / Rationale	The rationale including any data sources used to estimate the baseline driver frequency by risk.	Text
Outcome %'s	The outcome % by outcome by tranche.	Percentage from 0 – 100%.
Outcome % Rationale/Data Source	The rational including any data sources used to estimate the outcome percentage by outcome by tranche.	Text
Outcome Consequence Value – Safety	The Safety consequence attribute natural units by tranche for each outcome.	Number (i.e. 1.0)
Outcome Consequence Value – Reliability	The Reliability consequence attribute natural units by tranche for each outcome.	Number (i.e. 100,000)
Outcome Consequence Value – Financial	The Financial consequence attribute natural units by tranche for each outcome.	Number (i.e. $1,000)
Outcome Consequence Values Rationale/Data Source	The rationale including any data sources used to estimate the baseline outcomes/consequences by risk.	Text

Data Table #4 – Results

Field Name	Field Description	Field Type
Risk Name	The name of the applicable RAMP risk.	Text (i.e. Wildfire)
Control / Mitigation ID	The ID of the Control / Mitigation as it appears in the RAMP report.	Text (i.e. C1)
Control/Mitigation Name	The name of the control / mitigation as it appears in the RAMP report.	Text (Targeted Undergrounding)
Tranche ID	The tranche ID designation used in the RAMP report.	Text or Number (i.e. Tranche 1, Tranche A)
Scenario	Indicates the appropriate scenario (Proposed, Alternative 1 or Alternative 2).	Text
Year(s)	The applicable year of the analysis Pre-Test Year, Test Year, Post Test Year or Cumulative GRC Cycle).	Number (YYYY or YYYY – YYYY)
Discount Rate Scenario	The applicable discount rate scenario applied. IOU would indicate which scenario was used and the appropriate rates used in a footnote or other accompanying document.	Text or Number (i.e Discount Scenario 1, 1)
Pre-Mitigated Driver Frequency	The sum of all Pre-Mitigated driver frequencies.	Number
Pre-Mitigated Consequence	The sum of all consequence attributes prior to control / mitigation implementation.	Number
Pre-Mitigated Risk	The product of Pre-Mitigated Driver Frequency and Pre-Mitigated Consequences.	Number
Post-Mitigated Driver Frequency	The sum of all Post-Mitigated driver frequencies after the control / mitigation is applied.	Number
Post-Mitigated Consequence	The sum of consequence attributes after the control / mitigation is applied.	Number
Post-Mitigated Risk	The product of Post-Mitigated Driver Frequency and Post-Mitigated Consequences.	Number
NPV Benefits	The net present value of the benefits of the control / mitigation.	Number
NPV Spend	The net present value of the forecasted spend (includes expense, capital and foundational costs as applicable.	Number
Benefit to Cost Ratio (BCR)	The result of NPV Benefits / NPV Spend.	Number

Q&A on SCE Data Template

10:30 am – 10:45 am

Q&A on SCE Data Template Guideline

10:45 am – 11:05 am

Break

11:05 – 11:15 am

General Discussion: SCE Data Template

11:15 am – 12:30 pm

Thank you!

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Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 27, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Heater Safety

- “Heating equipment is the number one cause of household fires in the U.S.” (NFPA)
- Keep flammable materials away.
- Have heaters installed by professionals, regularly inspecting for damage.
- Turn off portable heaters when not in use.

TWG Jan. 27th Agenda

Introductions	10:00 – 10:05 am
RAMP and GRC Data Template: Sempra Companies Presentation	10:05 – 10:25 am
Data Template Q&A: Sempra	10:25 – 10:40 am
Data Template Guideline Q&A: Sempra	10:40 – 11:00 am
Break	11:00 – 11:10 am

TWG Jan. 27th Agenda (Continued)

General Discussion: Sempra Data Template	11:10 a.m. – 12:30 p.m.
Pacific Gas and Electric Presentation and General Discussion	January 28th
Cal Advocates Presentation and General Discussion	January 29th
SPD Presentation and General Discussion	January 30th
General Discussion	January 31st

Party Proposal for RAMP and GRC Data Templates

Presenter: Sempra Companies

10:05 am – 10:25 am

SOCALGAS AND SDG&E RAMP DATA TEMPLATE

SoCalGas™

SDGE™

Agenda

- RAMP Template Overview
- Risk Template Hierarchy
- Risk Summary
- Mitigation Summary
- Benefit-Cost Ratios Summary

RAMP TEMPLATE Overview

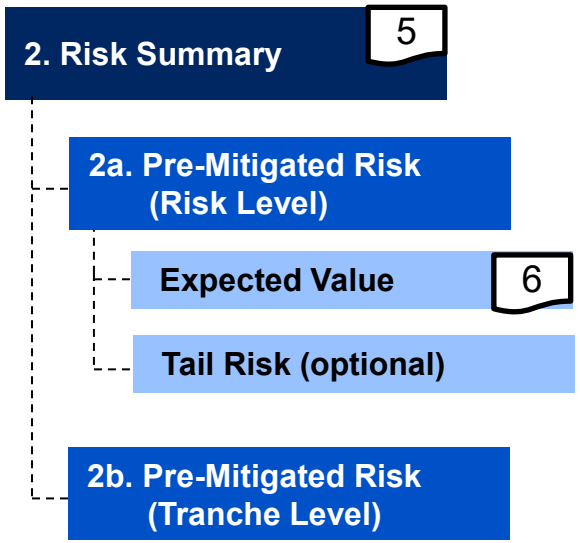
- Sempra's RAMP Template includes the data fields necessary to meet the requirements of the current RDF (applicable to Sempra's May 2025 RAMP Filing)
- No data fields are included relative to the unresolved topics of RDF OIR Phase 4
- Data fields that reflect estimates are denoted (E), and data fields calculated from estimates are denoted (D)
  - *Of the 81 fields in the Template excerpts included in this presentation, 21 are E and 39 are D*

Below is a summary of Sempra's RAMP Template structure, with slide references for included excerpts:

1. Master Inputs	2. Risk Summary	3. Mitigation Summary	4. Benefit-Cost Ratios
Model parameters common to all risks, including Safety CoRE VSL & MAIS factors, Reliability CoRE ($/CMI per ICE, $/Gas Meter per 2021 MAVF); and WACC, societal and hybrid discount rates.	Risk name, risk ID, short description, safety score & rank, number of tranches, and number of mitigations; also Pre-mitigated Risk at EV and Tail (if applicable) at the risk and tranche level.	Mitigation name, ID, and RAMP Risk, life expectancy; Mitigation O&M and Capex cost by year and in total by tranche and in aggregate; and Mitigation Benefits by tranche and in aggregate.	BCRs at the mitigation and tranche level, for required permutations, including the Test Year, each Post-Test Year and in aggregate, and for each discount rate scenario.
NO SLIDES	***SLIDES 4-6***	***SLIDES 7-10***	***SLIDES 11-12***

2. RISK SUMMARY Template Hierarchy (Partial)

1. Master Inputs/Model Parameters



LEGEND

Slide Reference

RAMP TEMPLATE

2. Risk Summary

FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
Risk Name	Name of Risk (e.g., MP Gas, Wildfire, EII)	Alphanumeric	
Risk Brief Description	Short description	Alphanumeric	
RAMP Risk Chapter	RAMP chapter in which Risk is discussed	Alphanumeric	
Safety Risk Score – Natural Units	Natural Units Safety Risk Score (Annualized, EV)	Numeric (,)	**E***
Safety Risk Score – Monetized	$-converted Safety Risk Score (Annualized, EV)	Numeric ($)	**D***
Safety Risk Ranking	Safety Risk Ranking	Numeric (,)	**D***
Safety Top 40%?	Y/N indicator as to whether Risk ranked in the top 40% of ERR	Binary (Y/N)	
CoRE Attributes	Y/N inclusion of Safety, Elec. Reliability, Gas Reliability, Financial attributes	Binary (Y/N)	
Pre-Mitigated Risk Score – EV	Pre-mitigated LoRE x CoRE risk score @ Expected Value, (from 2a.1)	Numeric ($)	**E***
Pre-Mitigated Risk Score – TR	Pre-mitigated LoRE x CoRE risk score @ Tail Value, (from 2a.2)	Numeric ($)	**E***
# of Mitigations	Number of Mitigations included in the RAMP filing for this Risk	Numeric (,)	
Total Mitigation Cost	Total, undiscounted capex + O&M cost of mitigations for 2028-31 (from 3a.)	Numeric ($)	**D***
# of Tranches	Number of Tranches derived for this Risk	Numeric (,)	

E*= Estimated Value **D***= Derived from Estimated Value(s)

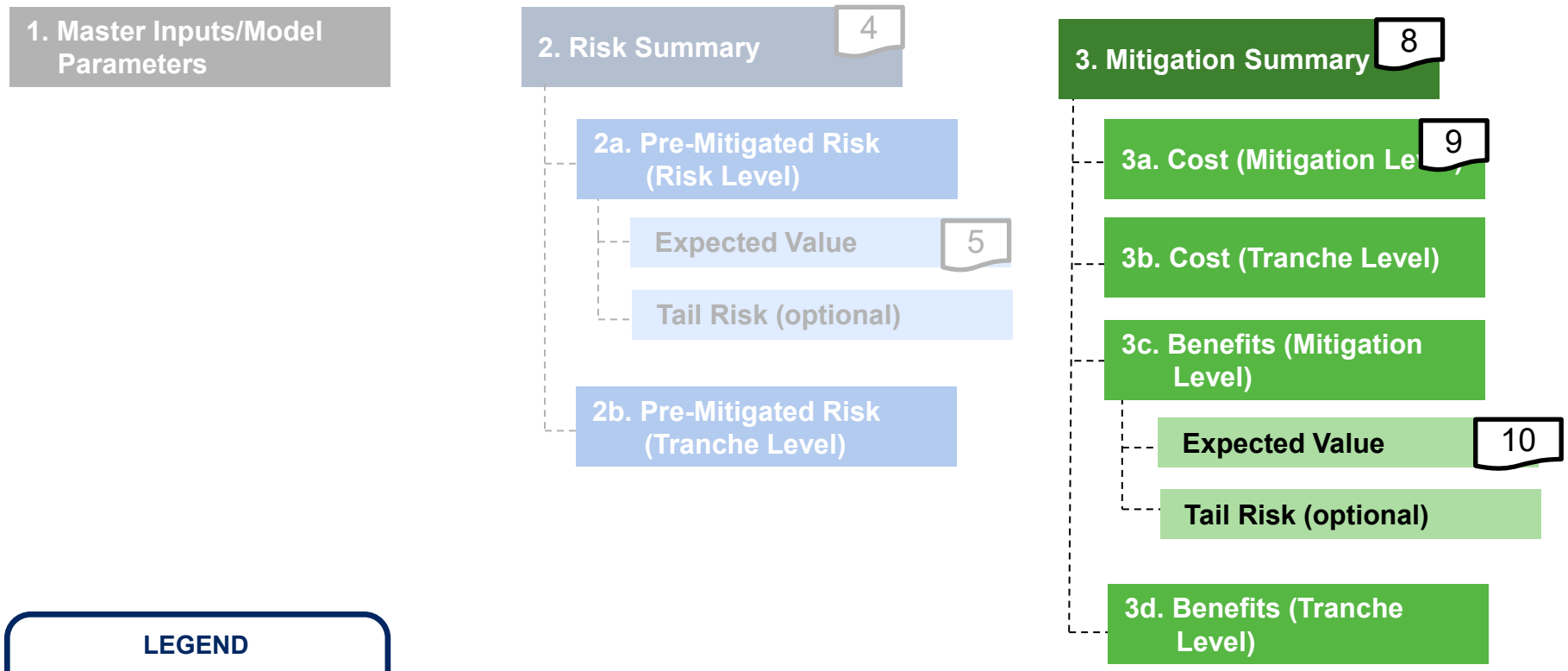
RAMP TEMPLATE

2. Risk Summary — **2a. Pre-Mitigated Risk (Risk Level)** — **2a.1 Exp. Value**

FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
Pre-Mit. LoRE	Annual frequency (events/year) or likelihood (% per year) of risk event (LoRE)	Numeric	**E***
Pre-Mit. LoRE Data Sources	Basis of determining pre-mitigated LoRE	Alphanumeric	
Pre-Mit. CoRE – EV Safety (NU)	Annual Safety CoRE in Natural Units (EF) @ Exp. Value	Numeric (,)	**E***
Pre-Mit. CoRE – EV Safety ($)	Annual Safety CoRE monetized @ Exp. Value	Numeric ($)	**D***
Pre-Mit. CoRE – EV Elec. Rel. (NU)	Annual Elec. Reliab. CoRE in Natural Units (CMI) @ Exp. Value	Numeric (,)	**E***
Pre-Mit. CoRE – EV Elec. Rel. ($)	Annual Elec. Reliab. CoRE monetized @ Expected Value	Numeric ($)	**D***
Pre-Mit. CoRE – EV Gas Rel. (NU)	Annual Gas Reliab. CoRE in Natural Units (Meters Out) @ Exp Value	Numeric (,)	**E***
Pre-Mit. CoRE – EV Gas Rel ($)	Annual Gas Reliability CoRE monetized @ Exp. Value	Numeric ($)	**D***
Pre-Mit. CoRE – EV Financial ($)	Annual Financial CoRE monetized @ Exp. Value	Numeric ($)	**E***
Risk Total Pre-Mitigated CoRE – EV	Annualized sum of CoRE attributes @ Exp. Value	Numeric ($)	**D***
Risk Pre-Mitigated Risk Score – EV	LoRE x CoRE @ Exp. Value	Numeric ($)	**D***

E*= Estimated Value **D***= Derived from Estimated Value(s)

3. MITIGATION SUMMARY Template Hierarchy (Partial)



LEGEND

Slide Reference

RAMP TEMPLATE

3. Mitigation Summary

! One per Mitigation

FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
RAMP Risk (Chapter)	Reference back to root RAMP Risk	Alphanumeric	
Mitigation ID	Identifier (e.g., EII-xxx-Mitigation 017)	Alphanumeric	
Mitigation Name	Basic Name for mitigation (e.g., Tee Modernization	Alphanumeric	
Mitigation Description	Brief description of mitigation	Alphanumeric	
Mitigation Life Expectancy	Life expectancy of the mitigation, in years	Numeric (,)	E*
Mitigation Total Cost (TY+3PTY)	Total Capex + O&M for the mitigation for 2028-31, undiscounted (per 3a)	Numeric ($)	D*
Mitigation Benefits – Exp. Value	Annualized benefit (risk reduction) @ Exp. Value undiscounted (per 3c.1)	Numeric ($)	D*
Mitigation-Level BCR – EV (D1)	BCR at mitigation level @ Exp. Value for discount rate 1 (per 4a.1)	Numeric (,)	D*
Mitigation-Level BCR – EV (D2)	BCR at mitigation level @ Exp. Value for discount rate 2 (per 4a.1)	Numeric (,)	D*
Mitigation-Level BCR – EV (D3)	BCR at mitigation level @ Exp. Value for discount rate 3 (per 4a.1)	Numeric (,)	D*
Mitigation Benefits – Tail Risk	Annualized benefit (risk reduction) @ undiscounted (per 3c.2)	Numeric ($)	D*
Mitigation-Level BCR – TR (D1)	BCR at mitigation level @ Tail for discount rate 1 (per 4a.2)	Numeric (,)	D*
Mitigation-Level BCR – TR (D2)	BCR at mitigation level @ Tail for discount rate 2 (per 4a.2)	Numeric (,)	D*
Mitigation-Level BCR – TR (D3)	BCR at mitigation level @ Tail for discount rate 2 (per 4a.2)	Numeric (,)	D*

E*= Estimated Value **D***= Derived from Estimated Value(s)

RAMP TEMPLATE

3. Mitigation Summary ---------- **3a. Cost (Mitigation Level)**

! One per Mitigation

FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
Mitigation ID	Identifier (e.g., EII-xxx-Mitigation 017)	Alphanumeric	
Mitigation Capital Investment – TY	Test Year (2028) capex included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation Capital Investment – PTY 1	Post-Test Year 1(2029) capex included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation Capital Investment – PTY 2	Post-Test Year 2 (2030) capex included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation Capital Investment – PTY 3	Post-Test Year 3 (2031) capex included for the mitigation, undiscounted	Numeric ($)	E*
Total Mitigation Capital Investment	Sum of TY and 3 PTY capex included for the mitigation, undiscounted	Numeric ($)	D*
Mitigation O&M – TY	Test Year (2028) O&M included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation O&M – PTY 1	Post-Test Year 1(2029) O&M included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation O&M – PTY 2	Post-Test Year 2 (2030) O&M included for the mitigation, undiscounted	Numeric ($)	E*
Mitigation O&M – PTY 3	Post-Test Year 3 (2031) O&M included for the mitigation, undiscounted	Numeric ($)	E*
Total Mitigation O&M	Sum of TY and 3 PTY O&M included for the mitigation, undiscounted	Numeric ($)	D*
Mitigation Total Cost – TY	Test Year (2028) total cost included for the mitigation, undiscounted	Numeric ($)	D*
Mitigation Total Cost – PTY 1	Post-Test Year 1(2029) total cost included for the mitigation, undiscounted	Numeric ($)	D*
Mitigation Total Cost – PTY 2	Post-Test Year 2 (2030) total cost included for the mitigation, undiscounted	Numeric ($)	D*
Mitigation Total Cost – PTY 3	Post-Test Year 3(2031) total cost included for the mitigation, undiscounted	Numeric ($)	D*
Total Mitigation Cost	Sum of TY and 3PTY total cost included for the mitigation, undiscounted	Numeric ($)	D*

E*= Estimated Value **D***= Derived from Estimated Value(s)

RAMP TEMPLATE

3. Mitigation Summary — 3c. Benefits (Mitigation Level) — 3c.1 Exp. Value

! One per Mitigation

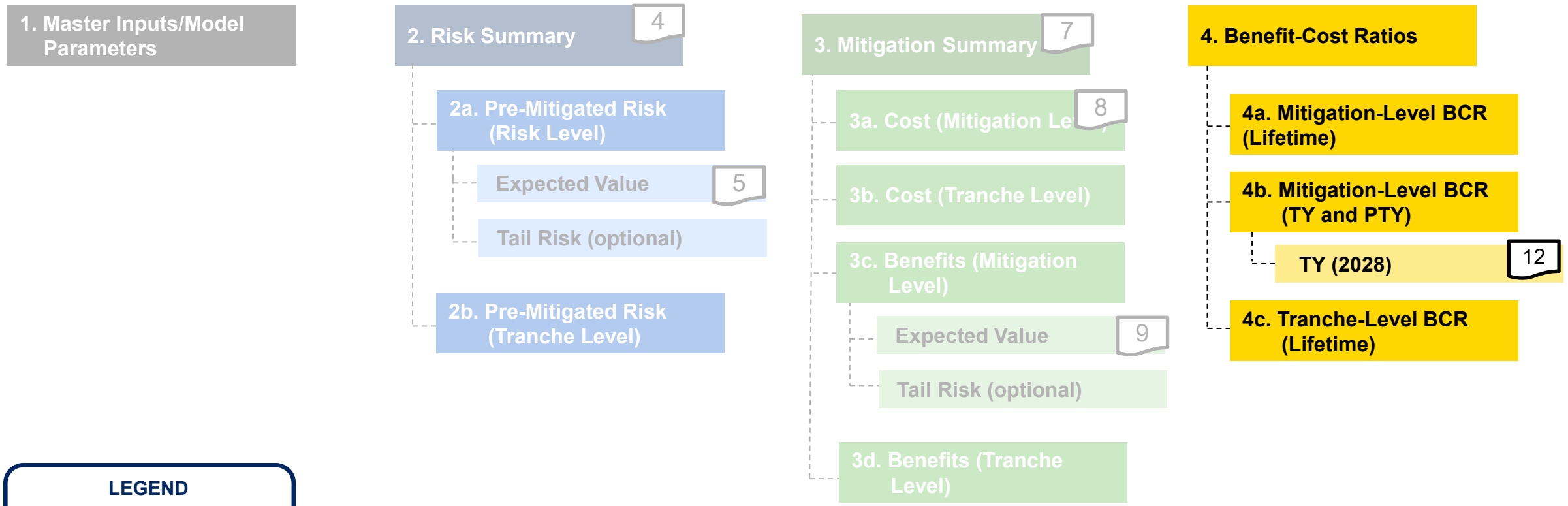
FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
Mitigation ID	Identifier (e.g., EII-xxx-Mitigation 017)	Alphanumeric	
Mit. Effect. – LoRE	Mitigation risk reduction in terms of reducing LoRE	Numeric	**E***
Mit. Effect. – LoRE Basis	Basis/Data sources used in estimating mitigation's LoRE reduction	Alphanumeric	
Mit. Effect. – Safety CoRE EV	Mitigation's risk reduction in terms of reducing EV Safety CoRE	Numeric	**E***
Mit. Effect. – Safety Basis	Basis/Data sources used in estimating mitigation's Safety CoRE reduction	Alphanumeric	
Mit. Effect. – Elec. Rel CoRE EV	Mitigation's risk reduction in terms of reducing EV Elec. Rel. CoRE	Numeric	**E***
Mit. Effect. – Elec. Rel. Basis	Basis/Data sources used in estimating mitigation's Elec. Rel. CoRE reduction	Alphanumeric	
Mit. Effect. – Gas Rel. CoRE EV	Mitigation's risk reduction in terms of reducing EV Gas Rel. CoRE	Numeric	**E***
Mit. Effect. – Gas Rel. Basis	Basis/Data sources used in estimating mitigation's Gas Rel. CoRE reduction	Alphanumeric	
Mit. Effect. – Financial CoRE EV	Mitigation's risk reduction in terms of reducing EV Financial CoRE	Numeric	**E***
Mit. Effect. – Financial Basis	Basis/Data sources used in estimating mitigation's Financial CoRE reduction	Alphanumeric	
Mit. EV Benefits TY (2028)–UD	Test Year (2028) total EV risk reduction, undiscounted	Numeric ($)	**D***
Mit. EV Benefits PTY 1 (2029)–UD	Post-TY 1 (2029) total EV risk reduction, undiscounted	Numeric ($)	**D***
Mit. EV Benefits PTY 2 (2030)–UD	Post-TY 2 (2030) total EV risk reduction, undiscounted	Numeric ($)	**D***
Mit. EV Benefits PTY 3 (2031)–UD	Post-TY 3 (2031) total EV risk reduction, undiscounted	Numeric ($)	**D***
Mit. EV Benefits > PTY 3–UD	Annual, total EV risk reduction/year > 2031, undiscounted	Numeric ($)	**D***
Lifetime Mit EV Benefits	Sum of mitigation EV risk reduction for life of mitigation	Numeric ($)	**D***

E*= Estimated Value **D***= Derived from Estimated Value(s)

SoCalGas

SDGE

4. BENEFIT-COST RATIOS Template Hierarchy (Partial)



LEGEND

Slide Reference

RAMP TEMPLATE

4b. Mitigation-Level BCR (TY and PTY) ---------- **4b.1 TY (2028)**

! One per Mitigation

FIELD NAME	FIELD DESCRIPTION	FIELD VALUE CONSTRAINTS	
Mitigation ID	Identifier (e.g., EII-xxx-Mitigation 017)	Alphanumeric	
TY Mitigation Cost-UD	Total TY/2028 mitigation cost, undiscounted (from 3a.)	Numeric ($)	**D***
TY Mitigation Cost-DIS	Present-value TY/2028 mitigation cost (discounted per 1b.)	Numeric ($)	**D***
TY Mit. EV Benefits-UD	Mitigation TY/2028 EV risk reduction, undiscounted from 3c.1	Numeric ($)	**D***
TY Mit. EV Benefits-DIS1	Present-value mitigation EV TY risk reduction (discounted by Factor 1)	Numeric ($)	**D***
Mitigation EV TY BCR-DIS1	Mitigation TY/2028 BCR at EV applying Discount Factor 1	Numeric (,)	**D***
TY Mit. EV Benefits-DIS2	Present-value mitigation EV TY risk reduction (discounted by. Factor 2)	Numeric ($)	**D***
Mitigation EV TY BCR-DIS2	Mitigation TY/2028 BCR at EV applying Discount Factor 2	Numeric (,)	**D***
TY Mit. EV Benefits-DIS3	Present-value mitigation EV TY risk reduction (discounted by Factor 3)	Numeric ($)	**D***
Mitigation EV TY BCR-DIS3	Mitigation TY BCR at EV applying Discount Factor 3	Numeric (,)	**D***

E*= Estimated Value **D***= Derived from Estimated Value(s)

Q&A on Sempra Data Template

10:25 am – 10:40 am

Q&A on Sempra Data Template Guideline

10:40 am – 11:00 am

Break

11:00 – 11:10 am

General Discussion: Sempra Data Template

11:10 am – 12:30 pm

Thank you!

Edwin “Eddie” Schmitt
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Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 28, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Power Tool Safety

- "over 960,000 injuries caused by power tools" (NCBI)
- Wear appropriate safety gear and inspect tools for damage before using.
- Only use tools as intended and unplug when not in use to prevent accidentally starting it.

TWG Jan. 28th Agenda

Introductions	10:00 – 10:05 am
RAMP and GRC Data Template: Pacific Gas and Electric Company (PG&E) Presentation	10:05 – 10:25 am
Data Template Q&A: PG&E	10:25 – 10:40 am
Data Template Guideline Q&A: PG&E	10:40 – 11:00 am
Break	11:00 – 11:10 am
General Discussion: PG&E Data Template	11:10 am – 12:30 pm
Cal Advocates Presentation and General Discussion	January 29th
SPD Presentation and General Discussion	January 30th
General Discussion	January 31st

Party Proposal for RAMP and GRC Data Templates

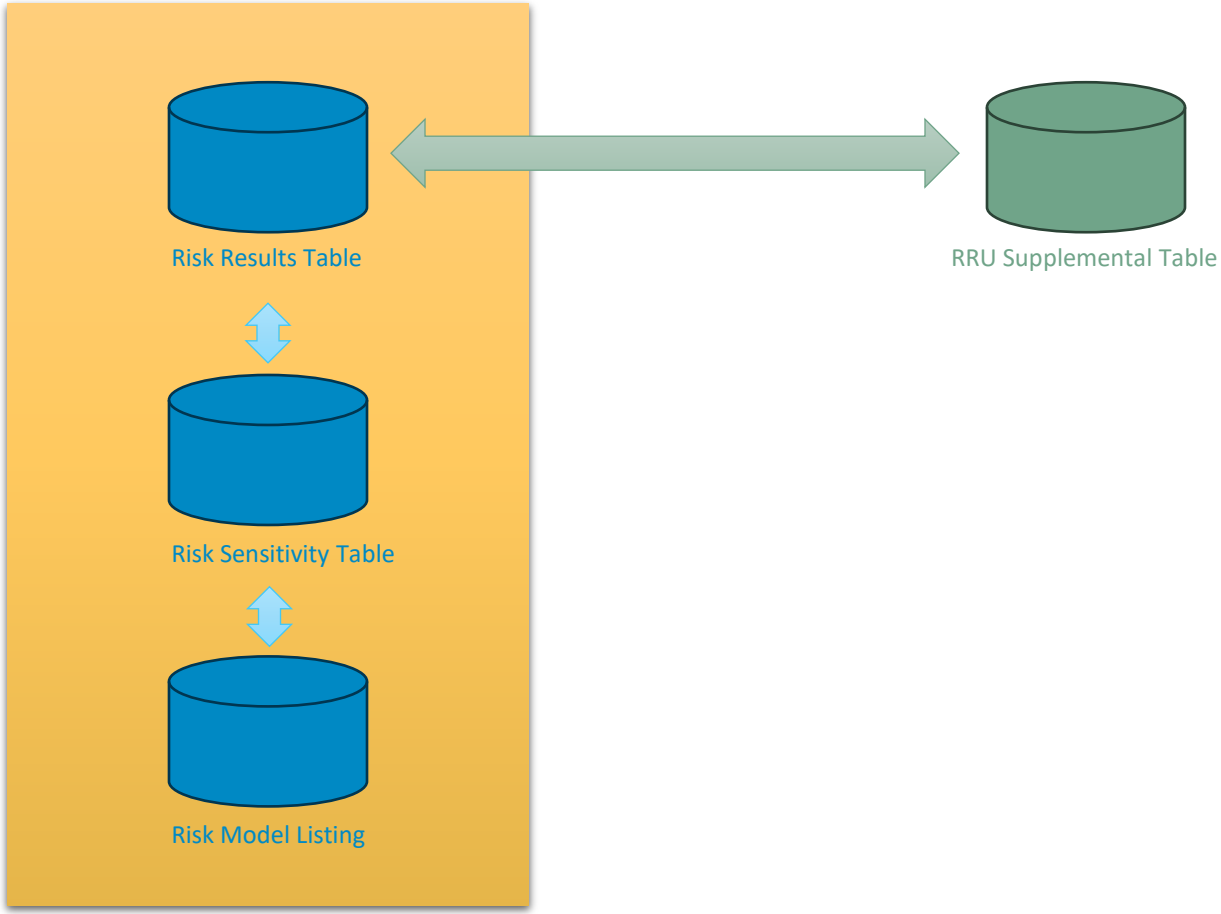
Presenter: Pacific Gas and Electric Company

10:05 am – 10:25 am

PG&E RAMP Template Proposal

PG&E Proposal

Extend the Transparency Proposal to include available RRU information



Transparency Proposal D.21-11-009 Appendix C
see also Pacific Gas and Electric Company's Test of the Transparency Pilot Guidelines, filed 8/5/24 in R.20-07-013

PG&E Proposal

Refresher: Transparency Proposal - Risk Results Table

Column	Description
Risk	Name of Risk
Tranche	Name of Tranche
Year	Year for which the Value pertains to
Mitigation	One of: • Name of Mitigation • "Baseline": The Values represent baseline estimates • "All": Values are for Post Mitigation estimates assuming all the proposed mitigations are in place.
Attribute	One of: • Name of MAVF Attribute: e.g., for PG&E, "Safety", "Electric Reliability" • "Overall": Values represent the overall MARS score, or are not related to Attributes (e.g., likelihood estimates are not related to Attributes)
Value	Numerical value
Result Type	See table below for valid Result Types
Estimate Quality	"High", "Medium", "Low". The qualitative degree of certainty/confidence associated with the output. See discussion in the Estimate Quality section below.
Confidence Interval	Quantitative confidence interval of estimate/calculation. This field is only populated with numerical values if such values are applicable and can be readily determined based on available data and established statistical principles, otherwise "N/A".

Result Type	Description
Risk Before	MARS value, present valued, before proposed mitigations are applied. If the Mitigation column is set to "Baseline", the value represents the Baseline risk score, calculated as *Present-Value (Attribute Weight x Program Exposure x LoRE Before x CoRE Before)* for a given Risk-Tranche-Year-Mitigation-Attribute. If the Attribute is "Overall", the Value is the same as the sum of Risk Scores over all Attributes.
LoRE Before	Likelihood of Risk Event before proposed mitigations are applied. If the Mitigation column is set to "Baseline", the value represents the Baseline Likelihood.
CoRE Before	Expected Consequence in Scaled Units. If the Mitigation column is set to "Baseline", the value represents the Baseline CoRE.
Exposure Before	Total # of units (miles, etc.) for the Risk/Tranche/Year in the Baseline.
Risk After	MARS value, present valued, after Mitigation is applied. This result is only available if Mitigation column is not "Baseline". This is calculated as *Present-Value (Attribute Weight x Program Exposure x LoRE After x CoRE After)* for a given Risk-Tranche-Year-Mitigation-Attribute. If the Attribute is "Overall", the Value is the sum of Risk Scores over all Attributes.
LoRE After	Likelihood after Mitigation is applied. This result is only available if Mitigation column is not "Baseline". Note that the LoRE here is different from Tranche LoRE when the mitigation is not implemented for the entire tranche.
CoRE After	CoRE after Mitigation is applied. This result is only available if Mitigation column is not "Baseline".
Exposure After	Total # of units (miles, etc.) for the Risk/Tranche/Year after Mitigation is applied.
Mitigation Program Exposure Scope	The # of units (miles, etc.) for the Risk/Tranche/Year that the Mitigation will be applied to.
Cost	Present valued expected cost for the Year.

"Additional Result Types can be added as necessary"
– D.21-11-009

PG&E Proposal

RRU Supplemental Table Proposal

Column	Description
Risk	Name of Risk
Tranche	Name of Tranche
Year	Year for which the value pertains to
Mitigation Name	Name of Mitigation
RRU Name	RRU Name
RRU Description	RRU description relative to tranche and units
RRU Status	E.g., scoping, designing, permitting, construction
RRU Units	Number of Units (miles, etc) in the RRU
RRU Estimated Cost	Estimated Cost of the RRU
RRU Estimated Contribution	The contribution (in %) of this RRU towards the Mitigation's Risk Reduction, etc.
Comments	Additional Information as needed

- Association of RRUs to Mitigation is achieved by joining on the key (Risk, Tranche, Year, Mitigation Name).
- By multiplying the Mitigation-level risk results (e.g., "Risk After", "Risk Before") by the "RRU Estimated Contribution" (in %) field, the RRUs risk reduction values can be estimated.

Q&A on PG&E Data Template

10:25 am – 10:40 am

Q&A on PG&E Data Template Guideline

10:40 am – 11:00 am

Break

11:00 – 11:10 am

General Discussion: PG&E Data Template

11:10 am – 12:30 pm

Thank you!

Edwin “Eddie” Schmitt
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Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 29, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Candle Safety

- “on average, 20 home candle fires are reported each day” (USFA)
- Keep candles away from flammable items and never leave unattended.
- Use stable candle holders.
- Trim wicks and avoid wind from open windows.

TWG Jan. 29th Agenda

Introductions	10:00 – 10:05 am
RAMP and GRC Data Template: California Public Advocates Office (Cal Advocates) Presentation	10:05 – 10:25 am
Data Template Q&A: Cal Advocates	10:25 – 10:40 am
Data Template Guideline Q&A: Cal Advocates	10:40 – 11:00 am
Break	11:00 – 11:10 am
General Discussion: Cal Advocates Data Template	11:10 am – 12:30 pm
SPD Presentation and General Discussion	January 30th
General Discussion	January 31st

Party Proposal for RAMP and GRC Data Templates

Presenter: California Public Advocates Office

10:05 am – 10:25 am

The Public ADVOCATES OFFICE

Risk Mitigation Templates

Technical Working Group (TWG) Meetings
Risk-based Decision-making Framework (RDF) Rulemaking R. 20-07-013

Cal Advocates | January 2025

Agenda

1. Background
2. Overview
3. Objectives
4. Risk Mitigation Data Templates
5. Mapping of Risks and Progress
6. Cal Advocates Recommendations
7. Discussion/Questions

Background

- In Phase III of the RDF, Cal Advocates proposed adoption of standardized Risk Mitigation Project/Progress Templates to be used in RAMPs and GRCs to consolidate risk mitigation information necessary for the Commission to evaluate utility risk mitigation programs.

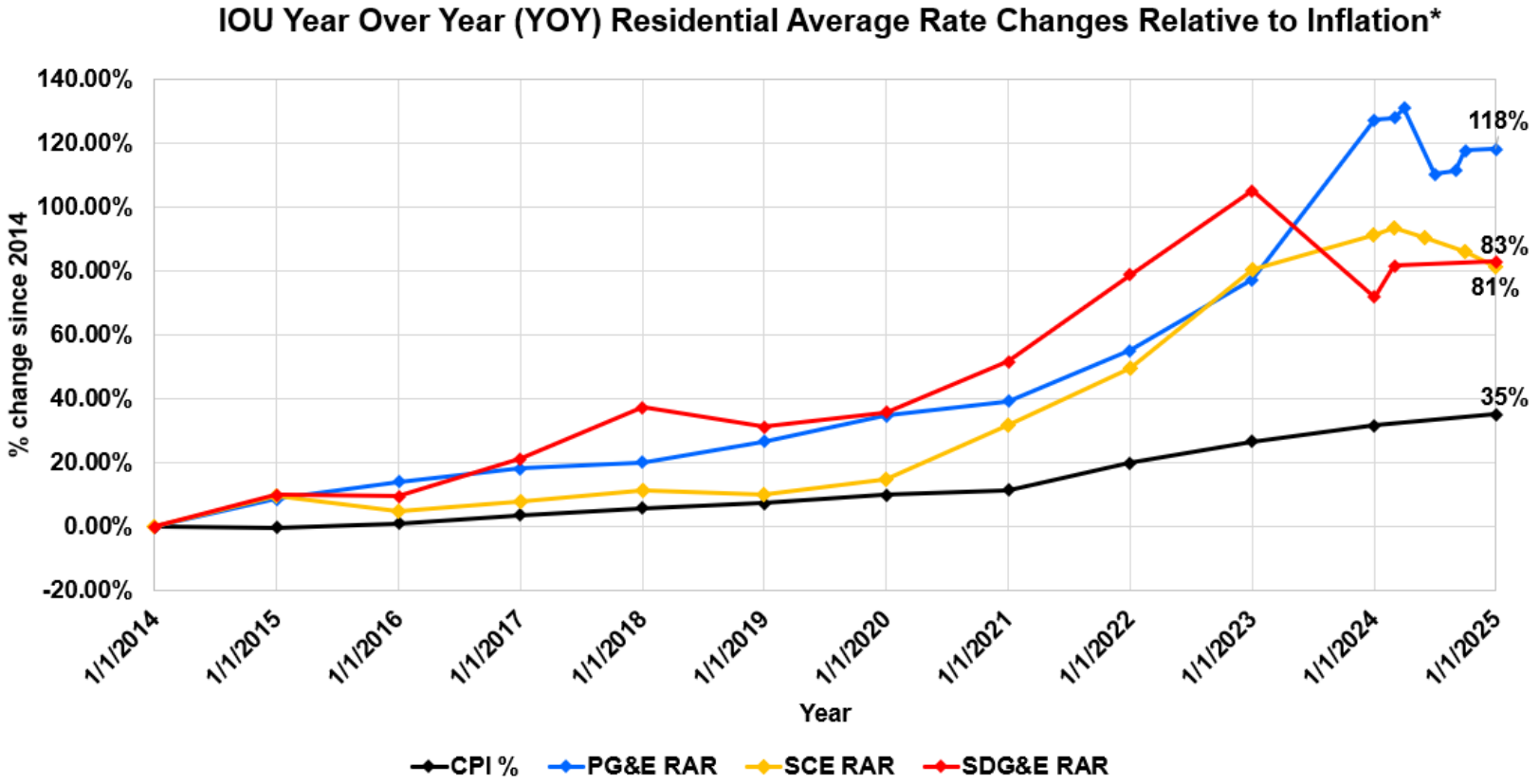
- The Commission was persuaded of the benefits of Cal Advocates' proposed templates and authorized a continuation of Technical Working Groups (TWG) in Phase 4 to further refine the templates.*

* D.24-05-064, *Phase 3 Decision*, June 6, 2024, at 110.

Overview

- RAMP and GRC applications currently lack a standard method to collect, consolidate, and compare project-level data to support utilities' risk mitigation proposals and show how the utilities determine specific risk mitigation targets and forecasts.

- The affordability crisis drives the need for critical review of risk mitigation program and project cost effectiveness and progress.



* Showing latest Bundled Residential Average Rates (RAR) as of January 1, 2025, and latest Consumer Price Index (CPI) index recorded for December 2024

Overview

Cal Advocates' Updated Templates:

- Risk Mitigation Program Templates include:
  - Timeline
  - Forecasts vs actuals:
    - Cost effectiveness, risk reduction, progress, mitigation effectiveness, etc.
  - Location mapping

- Risk Mitigation Project Template include:
  - Project/RRU-level timeline
  - Project/RRU-level forecasts vs actuals:
    - Cost effectiveness, risk reduction, progress, mitigation effectiveness, etc.
  - Project/RRU location mapping

Objectives

- Expedite and standardize collection and reporting of project/RRU-level risk mitigation information.
- Consolidate information necessary to critically evaluate prioritization, effectiveness and progress of utility risk mitigation projects/RRUs.
- Include location spatial data for projects/RRUs to enable mapping of progress, and support assessment of how projects/RRUs target, prioritize, and address a utility's largest risks.

Risk Mitigation Program Template

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	**Mitigation Program**	**RAMP Mitigation Program ID**	**GRC Mitigation Program ID**	**WMP Program ID**	**Capital/Expense Program**	**Risks Mitigated**	**Mitigation Program Work Unit**	**GRC Forecast Total Work Units**	**GRC Actual Total Work Units**	**GRC Forecast Program Average Cost per Work Unit**	**GRC Actual Program Average Cost per Work Unit**	**GRC Forecast Total Cost**	**GRC Actual Total Cost**	**GRC Mitigation Program Unmitigated Risk ($)**	**GRC Mitigation Program Forecast Total Risk Reduction ($)**	**GRC Mitigation Program Actual Total Risk Reductior ($)**	**GRC Mitigation Program Forecast Total Risk Reduction ($) Using Risk Neutral Scaling**	**GRC Mitigation Program Actual Total Risk Reduction ($) Using Risk Neutral Scaling**	**GRC Mitigation Program Total Risk Reduction Formula**	**GRC Mitigation Program Forecast Total Risk Reduction – Program (%)**	**GRC Mitigation Program Actual Total Risk Reduction – Program (%)**
2	Undergrounding Wildfire Mitigation Program	RAMP101	GRC101	WMP101	Capital	Wildfire, Electric Contact Risk,	Mile	550	526	$	$	$	$	$	$	$	$	$	Formula/Calculation	%	%
3	Vegetation Management Program	RAMP102	GRC102	WMP102	Expense					$	$			$	$		$			%	

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP
	GRC Mitigation Program Forecast Total Risk Reduction – Enterprise (%)	**GRC Mitigation Program Actual Total Risk Reduction – Enterprise (%)**	**GRC Forecast Mitigation Program BCR**	**GRC Actual Mitigation Program BCR**	**GRC Mitigation Program BCR Formula**	**GRC Forecast Mitigation Program Effectiveness (%)**	**GRC Actual Mitigation Program Effectiveness (%)**	**GRC Mitigation Program Effectiveness Formula**	**GRC Forecast Year 1 Cost**	**GRC Actual Year 1 Cost**	**GRC Forecast Year 2 Cost**	**GRC Actual Year 2 Cost**	**GRC Forecast Year 3 Cost**	**GRC Acutal Year 3 Cost**	**GRC Forecast Year 4 Cost**	**GRC Actual Year 4 Cost**	**GRC Forecast Year 1 Risk Reduction**	**GRC Actual Year 1 Risk Reduction**	**GRC Forecast Year 2 Risk Reduction**	**GRC Actual Year 2 Risk Reduction**	**GRC Forecast Year 3 Risk Reduction**
	%	%	Numerical	Numerical	Formula/Calculation	%	%	Formula/Calculation	$	$	$	$	$	$	$	$	$	$	$	$	$
	%					%	%		$		$		$		$		$		$		$

	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ
	GRC Acutal Year 3 Risk Reduction	**GRC Forecast Year 4 Risk Reduction**	**GRC Actual Year 4 Risk Reduction**	**GRC Forecast Year 1 Work Units**	**GRC Actual Year 1 Work Units**	**GRC Forecast Year 2 Work Units**	**GRC Actual Year 2 Work Units**	**GRC Forecast Year 3 Work Units**	**GRC Actual Year 3 Work Units**	**GRC Forecast Year 4 Work Units**	**GRC Actual Year 4 Work Units**	**GRC Forecast Mitigation Asset Life**	**GRC Actual Mitigation Asset Life**	**GRC Forecast Total Lifecycle Cost**	**GRC Actual Total Lifecyle Cost**	**Long-Term Goal Program Work Units**	**Long-Term Goal Program Timeline**	**Justification for Program Duration and Scope**	**Discussion of Key Constraints**	**Notes/Comments /Additional Columns**
	$	$	$	**100**	**110**	**125**	**129**	**150**	**138**	**175**	**149**	Numerical	Numerical	$	$	Text	Date	Text	Text	Text
		$																Text		

Risk Mitigation Project Template

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	**Risk Mitigation Program** **(Example:** **Undergrounding Wildfire Mitigation Program** **RAMP Mitigation Program ID: RAMP103** **GRC Mitigation Program ID: GRC103** **WMP Program ID: WMP103** **Risks Mitigated: Wildfire, Electric Contact** **Mitigation Program Work Unit: Mile)** **Project/RRU Name**	**Project/RRU ID**	**County**	**Location**	**Capital/ Expense Program**	**Status**	**Timeline for Installation**	**Forecast Total Cost of Mitigation Project/RRU**	**Forecast Total Work Units to Complete Over Project/RRU Timeline**	**Forecast Average Project/RRU Cost per Unit**	**Mitigation Effectiveness**	**Mitigation Effectiveness Formula**	**Unmitigated Risk ($)**	**Forecast Total Risk Reduction ($)**	**Actual Total Risk Reduction ($)**	**Risk Reduction Formula**	**BCR**	**Actual BCR**	**BCR Formula**	**Mitigation Effectiveness**	**Actual Mitigation Effectiveness**
2	Mountain Vista Circuit Undergrounding	RRU1004		Geospatial Data	Capital	In Progress	2022-2024						$	$						%	%
3																					

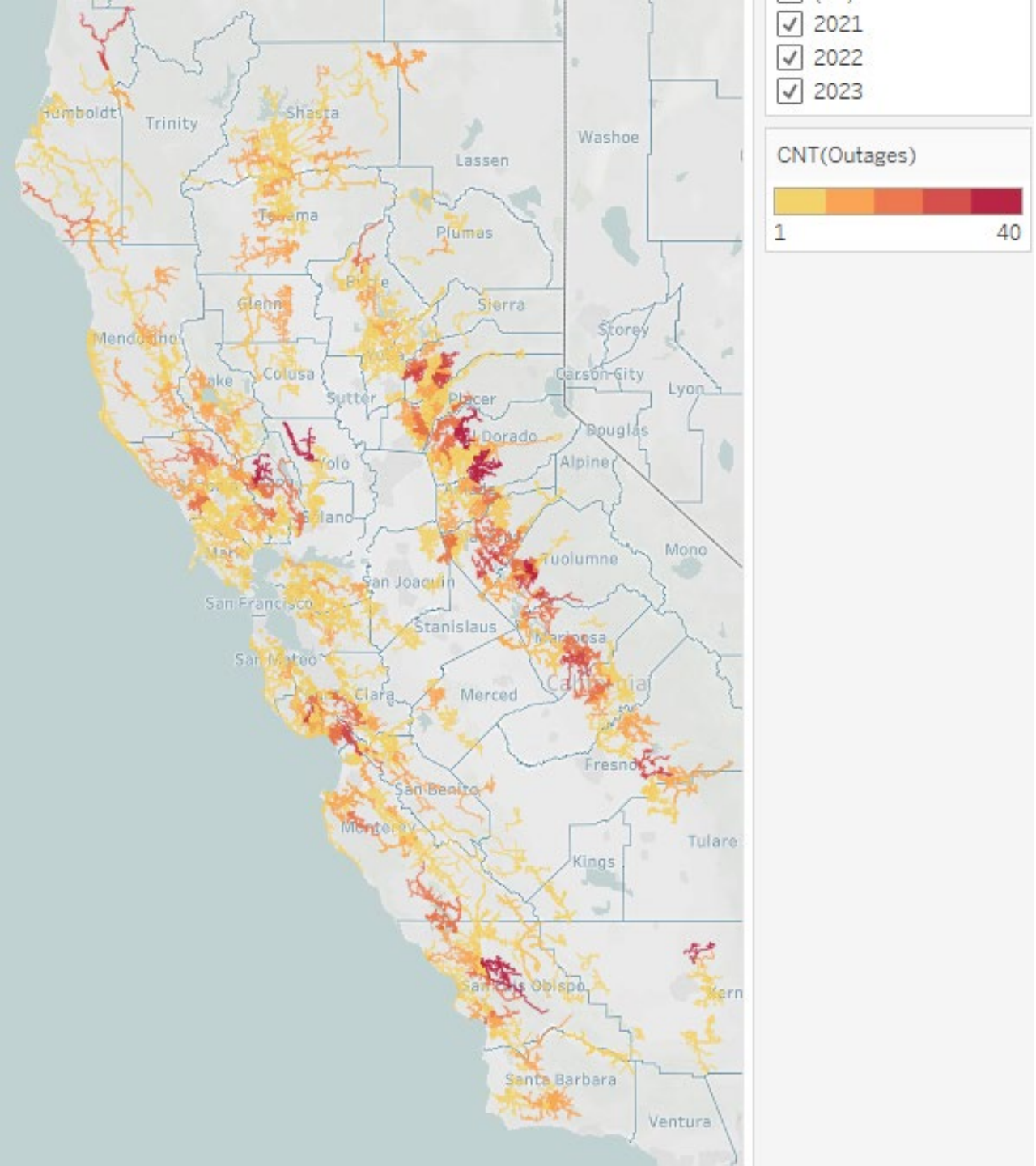
	A	B	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
1	**Risk Mitigation Program** **(Example:** **Undergrounding Wildfire Mitigation Program** **RAMP Mitigation Program ID: RAMP103** **GRC Mitigation Program ID: GRC103** **WMP Program ID: WMP103** **Risks Mitigated: Wildfire, Electric Contact** **Mitigation Program Work Unit: Mile)** **Project/RRU Name**	**Project/RRU ID**	**s** **Year 1**	**Year 1 Cost**	**Year 1 Actual Cost**	**Year 1 Work Units**	**Year 1 Actual Work Units**	**Year 2**	**Year 2 Cost**	**Year 2 Actual Cost**	**Year 2 Work Units**	**Year 2 Actual Work Units**	**Year 3**	**Year 3 Cost**	**Year 3 Actual Cost**	**Year 3 Work Units**	**Year 3 Actual Work Units**	**Year 4**	**Year 4 Cost**	**Year 4 Actual Cost**	**Year 4 Work Units**	**Year 4 Actual Work Units**	**Discussion of Key Constraints**	**Factors or Considerations Impacting Project/RRU Choice**	**HFTD Designation**	**HFRA**	**Circuit Segment ID**	**Circuit Feeder ID**	**Notes/Comments /Additional Columns**
2	Mountain Vista Circuit Undergrounding	RRU1004	2022	$	$			2023	$	$			2024	$	$			2025	$						Tier 1				
3																													

Mapping of Risks and Progress

Utilities should provide spatial data, allowing the Commission and parties to utilize modern visualization tools to analyze utility data. For some areas, this is already being done.

For example, map color coding can readily identify:

- Locations of highest priority mitigation projects that address the highest ranked risks.
- Locations of projects based upon the type of risk (e.g., wildfire, PSPS, EPSS, GHG emissions, etc.)
- Locations of projects that exhibit the highest CBR.
- Locations of projects based upon project completion or progress status.



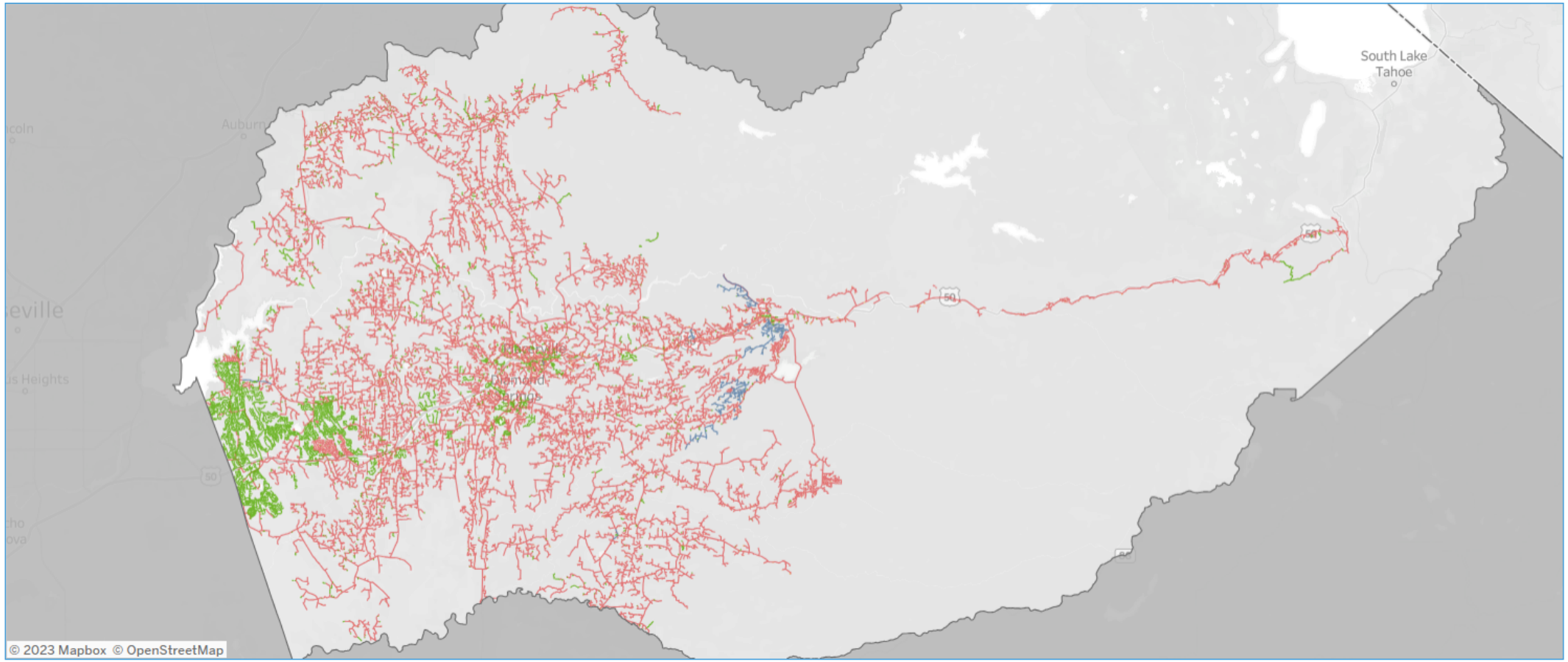
Example Mapping: EPSS Events (2021-2023)

The proposed templates collect risk ranking and location spatial data which may then be used to map areas to be prioritized for risk mitigation.

Source: Data from CPUC Web Page: Protective Equipment and Device Settings, Monthly EPSS Reports To SED and PG&E's Quarterly Data Reports
Accessed at: https://www.cpuc.ca.gov/industries-and-topics/wildfires/protective-equipment-device-settings and https://www.pge.com/en_US/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan.page?WT.mc_id=Vanity_wildfiremitigationplan

Mapping Progress

Status of Power Lines in El Dorado County
(Primary and Secondary Distribution Lines Reported by Investor-Owned Utilities, as of June 2021)



The interactive map shows the status of power lines throughout the county. You can zoom in on a particular area of interest or use the search function at the top-left of the map to search for a city within the county. The status of each power line is color-coded as follows:

- Underground
- Covered
- Bare
- Other
- Unknown

Depending upon the number of power lines within the county, the map may take up to 30 seconds to load.

Source: Geographic data for primary and secondary distribution lines that Bear Valley Electric Service, PacifiCorp, Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric reported to the Energy Safety Office, as of June 2021, and interviews with Energy Safety Office staff.

Note: The data provided in these graphics are for general informational purposes only. They are not intended to be relied upon for decision-making purposes, particularly any decisions about underground digging. The data are as of June 30, 2021. Contact the utilities directly for data for decision-making purposes or for more recent data.

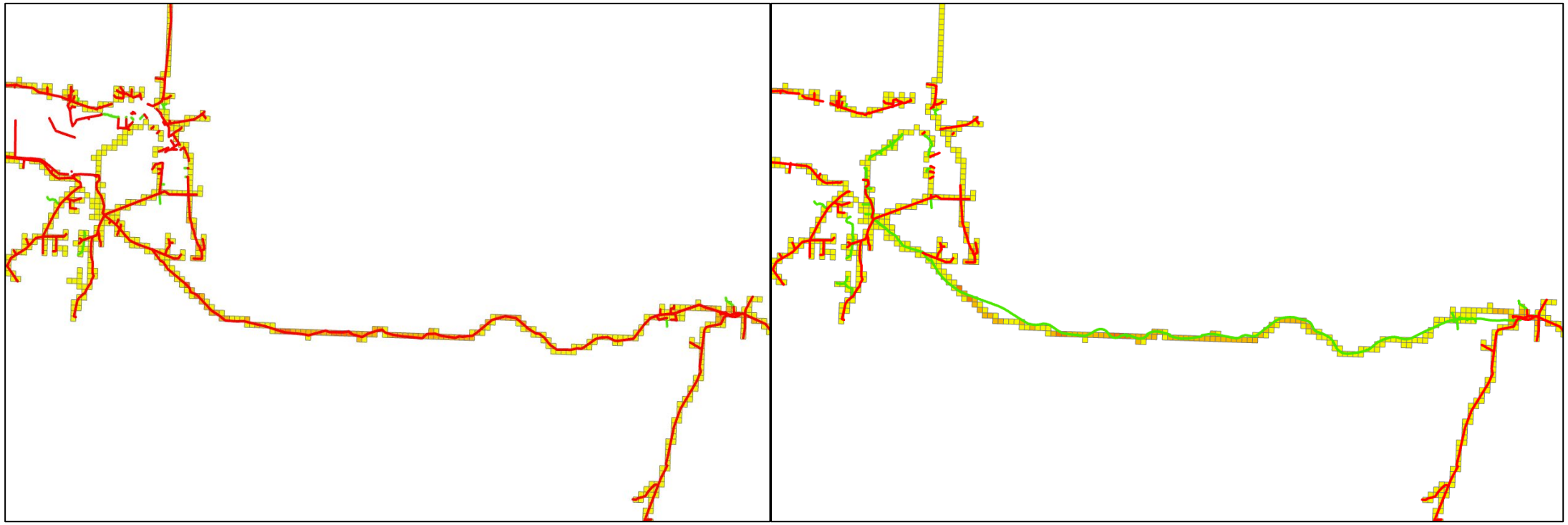
Source: CA State Auditor's map of IOUs' Electricity Distribution Lines That Are Underground or Covered As Reported in June 2021.
Accessed at: https://auditor.ca.gov/reports/2021-117/supplemental-line-status.html

Mapping of Progress

Circuit A

2022

2023



Overhead

Underground

Circuit A Risk Reduction Calculation

Total Composite Risk	2022v2023 Risk Reduction	2022v2023 Risk Reduction (%)	Remainder Risk
1.0200	0.9445	0.9260	0.0755

Cal Advocates Recommendations

1. The templates should include mitigation program and project/RRU information as described in Cal Advocates Mitigation templates.

2. Utilities should provide location information to enable mapping of risk mitigation and project information to support assessment of mitigation effectiveness and how mitigation projects/RRUs target, prioritize, and address a utility's highest risks.

3. Utilization of the Risk Mitigation templates should begin with Southern California Edison Company's (SCE) 2026 RAMP filing.

4. Risk Mitigation templates should be filed annually on May 15, consistent the RAMP and GRC application filing schedule.*

5. The Commission should provide that Safety Policy Division (SPD) should update and improve the templates periodically, in a fashion similar to how the Office of Energy Infrastructure Safety (OEIS) updates WMP guidelines.

*D.20-01-002, *Decision Modifying the Commission's RCP Energy Utilities*, January 22, 2020, at Appendix A: Table 1 – Adopted Revised GRC Application Filing Schedule.

Questions?

Q&A on Cal Advocates Data Template

10:25 am – 10:40 am

Q&A on Cal Advocates Data Template Guideline

10:40 am – 11:00 am

Break

11:00 – 11:10 am

General Discussion: Cal Advocates Data Template

11:10 am – 12:30 pm

Thank you!

Edwin “Eddie” Schmitt

edwin.schmitt@cpuc.ca.gov

Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 30, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Natural Gas Safety

- “125,000 residential natural gas incidents annually, with 4,200 home fires each year in the US alone” (NFPA)
- Don’t leave a car running in your garage and check appliances regularly.
- Ensure proper ventilation and evacuate when you notice a gas leak.

TWG Jan. 30th Agenda

Introductions	10:00 – 10:05 am
RAMP and GRC Data Template: Safety Policy Division (SPD) Presentation	10:05 – 10:25 am
Data Template Q&A: SPD	10:25 – 10:40 am
Data Template Guideline Q&A: SPD	10:40 – 11:00 am
Break	11:00 – 11:10 am
General Discussion: SPD Data Template	11:10 am – 12:30 pm
General Discussion	January 31st

Staff Proposal for RAMP and GRC Data Templates

Presenter: SPD Staff

10:05 am – 10:25 am

Proposed Data Template for RAMP and GRC Applications

Safety Policy Division Staff

January 30 2025

California Public Utilities Commission

Template and Table Structure

- Table 1: Data Set (General)
- Table 2: Cost Breakdown (General)
- Table 3: Risk Model Change Tracker (Electric Grid Infrastructure Specific)
- Table 4: HFTD and Associated Asset (Electric Grid Infrastructure Specific)
- Table 5: HCA/MCA and Associated Assets (Gas Infrastructure Specific)
- Table 6: Financial Inputs
- Table 7: Interruption Cost Estimate Calculator Inputs

Table 1: Data Set (General)

- RRU ID field
  - Tables 1-5 Anchored around RRU ID field
  - Naming schema must include the GRC Activity Code of the Proposed Mitigation Program.
  - A utility's RRU ID naming schema must not result in the reuse of an RRU ID.
- Proposed and Alternative Mitigation Field
  - One row for proposed mitigation
  - One row for each alternative mitigation

Table 1: Data Set (General)

Field Name	Field Description	Field Value Constraints
RRU ID	A unique value identifying the RRU. Risk Reporting Unit (RRU): A CPUC jurisdictional effort within Electric Operations or Gas Operations that simultaneously removes or mitigates a group of assets or systems that exhibit high levels of risk. The RRU must include common elements that should include, but are not limited to Consequence Attributes, Risk level, line item costs, work units and time. The RRU can be aggregated based on unique identifiers that should include, but are not limited to, hierarchy, risk event, tranche and mitigation type.	VARCHAR(255)
GRC Activity Code	This is the Activity Code for the Proposed Mitigation relevant to this RRU. Field values are expected to utilize the following notational systems: PG&E: Maintenance Activity Type (MAT) SCE: Work Breakdown Structure (WBS) Sempra: Capital Programs are defined at the budget code; Expense programs are defined at the workpaper.	VARCHAR(255)

Table 1: Data Set (General)

Field Name	Field Description	Field Value Constraints
Tranche Level	The Tranche that includes the Assets or Systems that the RRU mitigates. Each RRU can only mitigate the risk exhibited by Assets or Systems found in one Tranche. Tranches are the quintiles of Likelihood of Risk Event (LoRE) and Consequence of Risk Event (CoRE). The structure of the Tranche level to record in this field is represented as LoRE quintile and CoRE quintile that make up each tranche. Thus, the Tranche Level should be presented in the following shorthand: CoRE 1×LoRE 2 or CoRE 2×LoRE 1 If the utility opts to write a whitepaper presenting an alternative approach to tranches, they must create a clear and concise shorthand for the structure of the tranches.	VARCHAR(255)
List of Asset(s) or System(s)	List of the unique Assets and/or the unique Systems that exhibit risk, which is mitigated by the RRU. This should include, but not limited to, the following examples: For the electrical system: Isolatable Circuit Segments or Circuit Segments For the gas system: Pipeline Segments or other gas assets between valves, compressor stations, M&C facilities	TEXT

Table 1: Data Set (General)

RRU ID	GRC Activity Code	Tranche Level	List of Asset(s) or System(s)
08W-RRU-A01	08W	LoRE 1 & CoRE 1	CPZ ID #1 SAP #100XXXXXX SAP #100XXXXXY
08W-RRU-A01	08W	LoRE 1 & CoRE 1	CPZ ID #1 SAP #100XXXXXX SAP #100XXXXXY
08W-RRU-A01	08W	LoRE 1 & CoRE 1	CPZ ID #1 SAP #100XXXXXX SAP #100XXXXXY
08W-RRU-A02	08W	LoRE 1 & CoRE 2	CPZ ID #2 SAP #100XXXXXZ SAP #100XXXXXW
08W-RRU-A02	08W	LoRE 1 & CoRE 2	CPZ ID #2 SAP #100XXXXXZ SAP #100XXXXXW
08W-RRU-A02	08W	LoRE 1 & CoRE 2	CPZ ID #2 SAP #100XXXXXZ SAP #100XXXXXW

Table 1: Data Set (General)

Field Name	Field Description	Field Value Constraints
Proposed and Alternative Mitigations	This field must include the Proposed Mitigation and the Alternative Mitigations that the utility has considered for this RRU. All following risk and cost analyses are carried on based on the value inputted within this field. This field enables comparing risk analyses of several alternative mitigations options for the same RRU.	VARCHAR(255)
Proposed Mitigation Justification 1	Primary reason for choosing the proposed mitigation measures that the utility proposed for the RRU. This field can include, but is not limited to, responses such as operational limitations, cost efficiency, continuity, and benefits for other risk events.	VARCHAR(255)
Proposed Mitigation Justification 2	Other reasons for choosing the proposed mitigation measures that the utility proposed for the RRU. This field can include, but is not limited to, responses such as operational limitations, cost efficiency, continuity, and benefits for other risk events.	VARCHAR(255)
Pre-mitigated Risk	Unscaled value of Risk before the Proposed and Alternative Mitigations measures are applied to the assets or system associated with this RRU (Dollar Value)	REAL
Post-mitigated Risk	Unscaled value of Risk after the Proposed and Alternative Mitigations measures are applied to the assets or system associated with this RRU (Dollar Value)	REAL

Table 1: Data Set (General)

RRU ID	Proposed and Alternative Mitigations	Proposed Mitigation Justification 1	Proposed Mitigation Justification 2	Pre-mitigated Risk	Post-mitigated Risk
08W-RRU-A01	Undergrounding	Reduce the Likelihood of a Wildfire Risk Event	Improve Electric Reliability	$84,713.08	$2,541.39
08W-RRU-A01	Covered Conductor	N/A	N/A	$84,713.08	$11,012.70
08W-RRU-A01	Covered Conductor + Veg. Management	N/A	N/A	$84,713.08	$6,777.05
08W-RRU-A02	Undergrounding	Reduce the Likelihood of a Wildfire Risk Event	Improve Electric Reliability	$753,141.13	$22,594.23
08W-RRU-A02	Covered Conductor	N/A	N/A	$753,141.13	$97,908.35
08W-RRU-A02	Covered Conductor + Veg. Management	N/A	N/A	$753,141.13	$60,251.29

Table 2: Cost Breakdown (General)

Field Name	Field Description	Field Value Constraints
Labor	Including all the required Engineering, Design, and Construction	REAL
Materials	All the required material costs	REAL
Permits and Environmental Costs	Permitting fees from local and state agencies. Environmental impact assessments and mitigation measures.	REAL
Other Costs	Other costs that are not categorized in the rows above	REAL
Total Costs	Total nominal value of the expenditures of the Proposed and Alternative Mitigations for the RRU. This value must be identical with the Total Costs field in Table 1.	REAL
Reporting Date	The date the risk and costs for the Proposed and Alternative Mitigations for the RRU are reported.	Date (YYYY-MM-DD)
Calculated Date	The date the risk and costs for the Proposed and Alternative Mitigations for the RRU are calculated.	Date (YYYY-MM-DD)

Table 2: Cost Breakdown (General)

RRU ID	Proposed and Alternative Mitigations	Labor	Materials	Permits and Environmental Costs	Other Costs	Total Costs	Reporting Date	Calculated Date
08W-RRU-A01	Undergrounding	$7,350,000.00	$3,062,500.00	$1,225,000.00	$612,500.00	$12,250,000.00	1/8/2025	10/24/2024
08W-RRU-A01	Covered Conductor	$900,000.00	$600,000.00	$200,000.00	$300,000.00	$2,000,000.00	1/8/2025	10/24/2024
08W-RRU-A01	Covered Conductor+Veg. Management	$1,215,000.00	$675,000.00	$270,000.00	$540,000.00	$2,700,000.00	1/8/2025	10/24/2024
08W-RRU-A02	Undergrounding	$6,270,000.00	$2,200,000.00	$1,100,000.00	$1,430,000.00	$11,000,000.00	1/8/2025	10/24/2024
08W-RRU-A02	Covered Conductor	$968,000.00	$528,000.00	$176,000.00	$88,000.00	$1,760,000.00	1/8/2025	10/24/2024
08W-RRU-A02	Covered Conductor+Veg. Management	$1,062,000.00	$590,000.00	$236,000.00	$472,000.00	$2,360,000.00	1/8/2025	10/24/2024

Table 3: Risk Model Change Tracker (Electric Grid Infrastructure Specific)

Field Name	Field Description	Field Value Constraints
Current Risk Model	Name and Version of the updated Risk Model used to calculate the risk score for the assets mitigated by the RRU (E.g., V2)	VARCHAR(255)
Current Total Miles	Total circuit miles under **Current Risk Model** for the RRU.	VARCHAR(255)
Current HFTD Miles	Total miles in High Fire-Threat District (HFTD) under **Current Risk Model** for the RRU.	VARCHAR(255)
Current Pre-mitigated Risk Score	The pre-mitigated risk score for the assets mitigated by the RRU calculated under the **Current Risk Model**. (Dollar Value)	VARCHAR(255)
Current Risk Percentage	The pre-mitigated risk score for the assets mitigated by the RRU divided by the total risk score calculated using the **Current Risk Model**.	VARCHAR(255)
Change Type	Identification of how the assets or systems mitigated by the RRU have been defined and redefined since the last update: New Data Inputs to Risk Model, New Construction, Rename, Split, Merge, Other.	VARCHAR(255)
Change Date	Date the assets or systems mitigated by the RRU were changed	Date (YYYY-MM-DD)
Previous Risk Model	Name and Version of the **Previous Risk Model** used to calculate the risk score for the assets mitigated by the RRU	VARCHAR(255)
Previous Total Miles	Total circuit miles under the **Previous Risk Model** for the RRU.	VARCHAR(255)
Previous HFTD Miles	Total miles in High Fire-Threat District (HFTD) under Previous Risk Model for the RRU.	VARCHAR(255)
Previous Pre-mitigated Risk Score	The pre-mitigated risk score for the assets mitigated by the RRU calculated under the **Previous Risk Model**.	VARCHAR(255)
Previous Risk Percentage	The pre-mitigated risk score for the assets mitigated by the RRU divided by the total risk score calculated using the **Previous Risk Model**.	VARCHAR(255)

Table 3: Risk Model Change Tracker (Electric Grid Infrastructure Specific)

RRU ID	Current Risk Model	Current Total Miles	Current HFTD Miles	Current Pre-mitigated Risk Score	Change Type	Change Date	Previous Risk Model	Previous Total Miles	Previous HFTD Miles	Previous Pre-mitigated Risk Score
08W-RRU-A01	V.4	2.5	2.5	$84,713.08	New Data Inputs to Risk Model	1/12/2024	V.3	2.5	2.5	$76,241.77
08W-RRU-A02	V.4	2.2	2.2	$753,141.13	New Data Inputs to Risk Model	1/12/2024	V.3	2.2	2.2	$677,827.01

Table 4: HFTD and Associated Asset (Electric Grid Infrastructure Specific)

Field Name	Field Description	Field Value Constraints
HFTD Tier 3 Miles	If applicable, total number of miles included in the RRU located in HFTD Tier 3	REAL
HFTD Tier 2 Miles	If applicable, total number of miles included in the RRU located in HFTD Tier 2	REAL
Wildfire Rebuild Miles	If applicable, total number of miles included in the RRU located in Wildfire Rebuild Area.	REAL
Associated Assets	List of all connected low risk Associated Assets that the utility plans to mitigate because of operational constraints or reasons other than the reducing risk (e.g., Service lines and Secondary lines).	TEXT
Associated Asset Work Units	Total associated asset work units included in the RRU that the utility plans to mitigate.	REAL
Costs for Associated Assets	The expenditures of the Proposed and Alternative Mitigations for all of the Associated Assets that the utility plans to mitigate.	REAL
Risk Reduction for Associated Assets	The Risk Reduction of the Proposed and Alternative Mitigations for all of the Associated Assets that the utility plans to mitigate.	REAL

RRU ID	HFTD Tier 3 Miles	HFTD Tier 2 Miles	Fire Rebuild Miles	Proposed and Alternative Mitigations	Associated Assets	Associated Asset Work Units	Costs for Associated Assets	Risk Reduction for Associated Assets
08W-RRU-A01	2.5	0	0	Undergrounding	SAP #100XXXXXV SAP #100XXXXXU	0.525	$5,625,000.00	$8,217.17
08W-RRU-A01	2.5	0	0	Covered Conductor		0	$0.00	$0.00
08W-RRU-A01	2.5	0	0	Covered Conductor+Veg Management		0	$0.00	$0.00
08W-RRU-A02	2.2	0	0	Undergrounding	SAP #100XXXXXS SAP #100XXXXXT	0.462	$4,950,000.00	$73,054.69
08W-RRU-A02	2.2	0	0	Covered Conductor	SAP #100XXXXXS	0.262	$792,000.00	$65,523.28
08W-RRU-A02	2.2	0	0	Covered Conductor+Veg Management	SAP #100XXXXXS	0.262	$992,250.00	$69,288.98

Table 5: HCA/MCA and Associated Assets (Gas Infrastructure Specific)

Field Name	Field Description	Field Value Constraints
High Consequence Area (HCA) miles	If applicable, total number of miles included in the RRU located in the HCA.	REAL
Moderate Consequence Area (MCA) miles	If applicable, total number of miles included in the RRU located in the MCA.	REAL
Associated Assets (Gas)	List of all connected low risk Associated Assets that utilities plan to mitigate because of operational constraints or other reasons (e.g., Environmental Factors, Broader Infrastructure Coordination such as Other Gas Asset Replacement Projects, Electrical Infrastructure Projects, Transition to Renewable Natural Gas).	TEXT
Associated Asset Work Units (Gas)	Total associated asset work units included in the RRU that the utility plans to mitigate.	REAL
Costs for Associated Assets (Gas)	The expenditures of the Proposed and Alternative Mitigations for all of the Associated Assets that the utility plans to mitigate.	REAL
Risk Reduction for Associated Assets (Gas)	The Risk Reduction of the Proposed and Alternative Mitigations for all of the Associated Assets that the utility plans to mitigate.	REAL

Table 5: HCA/MCA and Associated Assets (Gas Infrastructure Specific)

RRU ID	High Consequence Area (HCA) miles	Moderate Consequence Area (MCA) miles	Proposed and Alternative Mitigations	Associated Asset Work Units (Gas)	Associated Assets (Gas)	Costs for Associated Assets	Risk Reduction for Associated Assets
75E-RRU-A01	0.1	0	Vintage Pipeline Replacement	L-123 Mile Post 9.95 -10.00 L-123 Mile Post 10.45 -10.50 SAP #200XXXXXA SAP #200XXXXXB	0.1	$333,333.33	$2,392.47
75E-RRU-A01	0	0	Vintage Pipeline Coating & Cathodic Protection, Composite Wrapping, and Internal Coating		0	$0.00	$0.00
75E-RRU-A01	0.1	0	Vintage Pipeline Strength Testing and Pressure Management	L-123 Mile Post 9.95 -10.00 L-123 Mile Post 10.45 -10.50 SAP #200XXXXXA SAP #200XXXXXB	0.1	$31,818.18	$165,690.07
76G-RRU-A01	N/A	N/A	Measurement and Control Facility Upgrade (Rebuild)	R-782A (Downstream Primary OPP) SAP #200XXXXXR	1	$152,000.00	$1,520.00
76G-RRU-A01	N/A	N/A	Measurement and Control Facility Upgrade (Retrofit - Comprehensive		0	$0.00	$0.00
76G-RRU-A01	N/A	N/A	Measurement and Control Facility Upgrade (Retrofit - Relief Valve)		0	$0.00	$0.00

Table 6: Financial Inputs (General)

Field Name	Field Description	Field Value Constraints
Terrain modifier	Modifier to account for how different types of terrain (e.g., flatlands, hills, mountains) affect the increased costs associated with building or maintaining infrastructure in difficult terrains.	VARCHAR(255)
WACC Discount Rate	The Weighted Average Cost of Capital (WACC) Discount Rate Scenario the utility must use to calculate Present Value Benefits and Costs as well as the BCR for an RRU.	REAL
Societal Discount Rate	The Societal Discount Rate Scenario the utility must use to calculate Present Value Benefits and Costs as well as the BCR for an RRU.	REAL
Hybrid Discount Rate	The Hybrid Discount Rate Scenario the utility must use to calculate Present Value Benefits and Costs as well as the BCR for an RRU.	REAL
VSL	Dollar value of statistical life used to monetize the Safety Consequence	REAL
Standard Dollar Valuation of Electric Reliability	Dollar value per customer minute interrupted as estimated by the Interruption Cost Estimate Calculator	REAL
Standard Dollar Valuation of Gas Reliability	Dollar value per customer minute interrupted based on the implied value from a utility's most recent RAMP	REAL
PVRR	PVRR or Present Value Revenue Requirement is the financial metric the utility used in its rate case and long-term planning to evaluate the cost implications of investments or programs over the life of the asset	REAL
Escalation factor	The escalation factor to account for the anticipated increase in costs over time due to factors like inflation, labor cost increases, material cost changes, or other economic conditions	REAL

Table 7: Interruption Cost Estimate (ICE) Calculator

Field Name	Field Description	Field Value Constraints
Operational Division by HFTD or Non-HFTD	Designation of HFTD or Non-HFTD service territory within a given Operational Division or Headquarters	VARCHAR(255)
Number of Affected Customers-Residential	Total number of residential customers affected by the risk event.	REAL
Number of Affected Customers-Small C&I	Total number of small commercial and industrial customers affected by the risk event.	REAL
Number of Affected Customers-Medium and Large C&I	Total number of medium and large commercial and industrial customers affected by the risk event.	REAL
Annual Usage per Customer (MWh) - Residential	Average annual electricity usage in megawatt-hours for residential customers.	REAL
Annual Usage per Customer (MWh) - Small C&I	Average annual electricity usage in megawatt-hours for small commercial and industrial customers.	REAL
Annual Usage per Customer (MWh) - Medium and Large C&I	Average annual electricity usage in megawatt-hours for medium and large commercial and industrial customers.	REAL

Table 7: Interruption Cost Estimate (ICE) Calculator (cont.)

Field Name	Field Description	Field Value Constraints
Medium and Large C&I- Manufacturing %	Percentage of medium and large commercial and industrial customers engaged in manufacturing.	REAL
Small C&I- Construction %	Percentage of small commercial and industrial customers engaged in construction	REAL
Small C&I- Manufacturing%	Percentage of small commercial and industrial customers engaged in manufacturing.	REAL
Small C&I- Backup generation%	Percentage of small commercial and industrial customers with backup generation.	REAL
Percentage of Outage Morning	Outages by time of Day-Morning (6 am to 12 pm)	REAL
Percentage of Outage Afternoon	Outages by time of Day-Afternoon (12 pm to 5 pm)	REAL
Percentage of Outage Evening	Outages by time of Day-Evening (5 pm to 10 pm)	REAL
Percentage of Outage Night	Outages by time of Day-Night (10 pm to 6 am)	REAL

Table 7: Interruption Cost Estimate (ICE) Calculator (cont.)

Field Name	Field Description	Field Value Constraints
Percentage of Outage Summer	Outages by time of Year- Summer (June through September)	REAL
Percentage of Outage Non-Summer	Outages by time of year- non-Summer (October through May)	REAL
SAIDI	System Average Interruption Duration Index. It is calculated by dividing the total minutes of customer interruptions by the total number of customers served.	REAL
SAIFI	System Average Interruption Frequency Index. It is calculated by dividing the total number of customer interruptions by the total number of customers served.	REAL

Q&A on SPD Data Template

10:25 am – 10:40 am

Q&A on SPD Data Template Guideline

10:40 am – 11:00 am

Break

11:00 – 11:10 am

General Discussion: SPD Data Template

11:10 am – 12:30 pm

Thank you!

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Rulemaking (R.) 20-07-013: Phase 4 Track 2 Technical Working Groups: January 31, 2025

RAMP and GRC Data Templates

California Public Utilities Commission

Battery Safety

- “25,000 incidents of fire or overheating involving lithium-ion batteries” (CPSC)
- Store batteries safely and dispose of them properly.
- Replace batteries frequently and remove them from unused devices.

TWG Jan. 31st Agenda

Introductions	10:00 – 10:05 am
General Discussion	10:05 – 11:00 am
Break	11:00 – 11:10 am
General Discussion	11:10 am – 12:20 pm
Phase 4 TWG Close Out and Next Steps	12:20 – 12:30 pm

CPUC Close and Next Steps

12:20 pm – 12:30 pm

Next Steps

1. Working Group Recordings on Youtube (3-4 days)

   https://www.youtube.com/user/CaliforniaPUC

2. Draft Working Group Summaries Shared (February 7)

3. Send Changes to Utilities (February 14)

4. Working Group Summaries Filed to Docket (February 18)

Thank you!

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