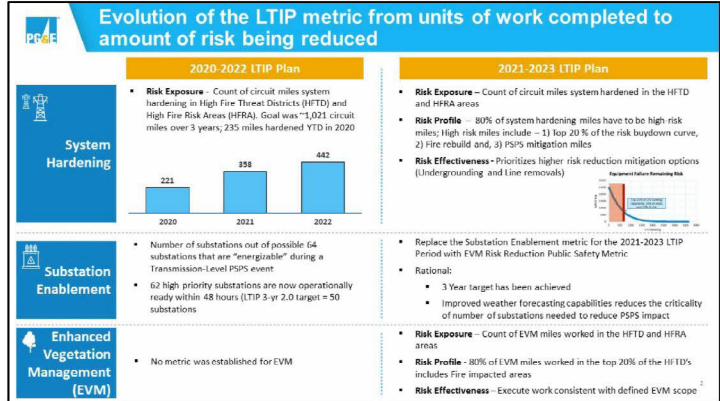


**Public Safety
Long Term Incentive Plan (LTIP)
Target Setting**

November 15, 2020

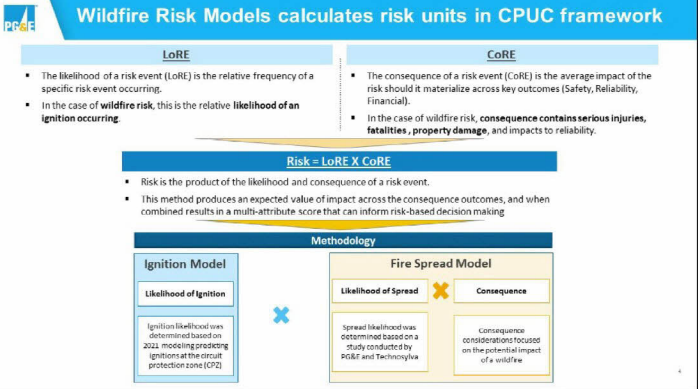


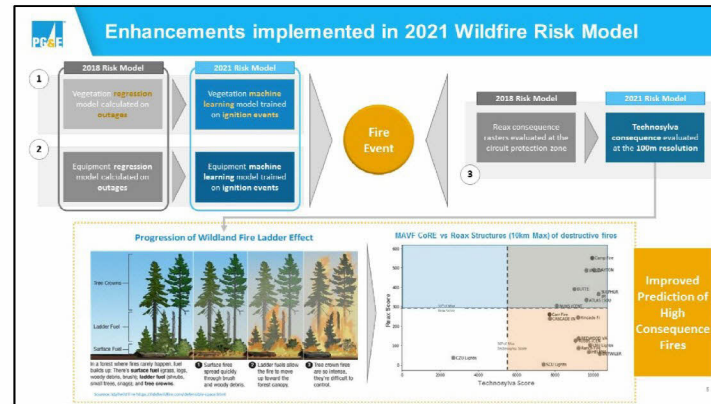
Together, Building
a Better California



Risk Model and Risk Quantification

J. Smith

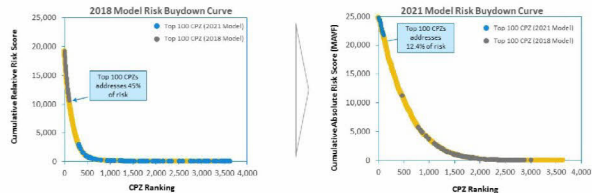






Risk models provide risk buydown curves to guide workplan

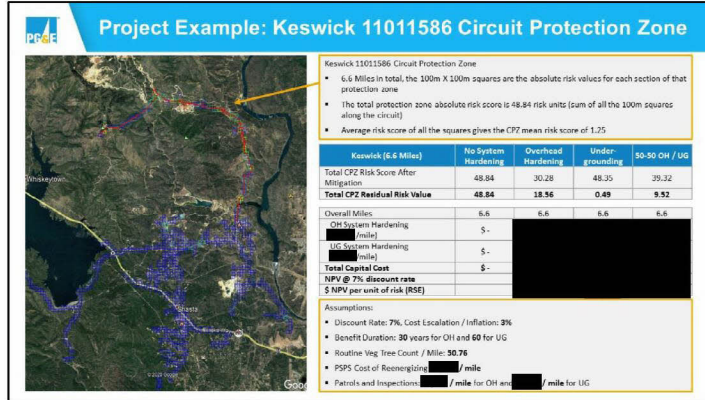
The risk buydown curve shows the amount of risk that can be addressed with every subsequent mile or CPZ that is mitigated. This view shows the relative magnitude of potential projects and can compare impacts of programs with varied effectiveness. The visualization helps to highlight the consolidation of risk by mile as you move down the prioritization list.



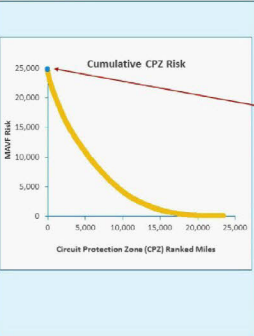
System Hardening Risk Buydown curves highlight the significant shift of where the top 100 CPZ's are between the two models

Project Example

1/20/2014



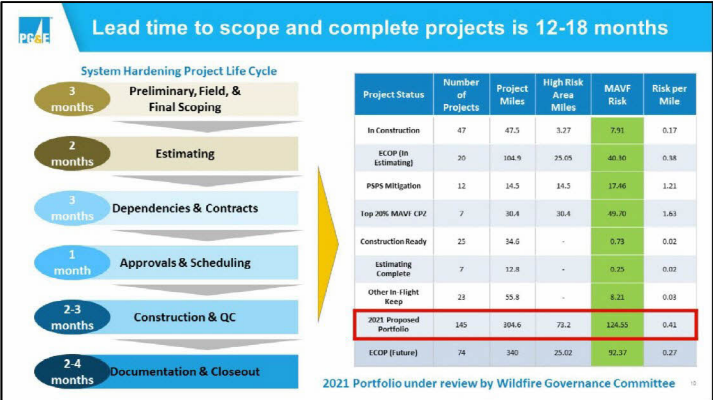
The top 50 riskiest miles represent 4.9% of the system risk.



Protection Zone Name	Miles	Cumulative Miles	Mean MAUP Score	Total CPZ Miles	% total risk reduced (52%)
OREGON TRAIL 1109LUS91	0.02	0.02	3.16	3.16	0.01%
CALPINE 1144276-G	0.01	0.03	1.88	1.88	0.01%
MARIPOSA 210190130	0.08	0.12	1.69	1.69	0.02%
SHEPHERD 2111688294	0.01	0.13	1.44	1.44	0.02%
MIDDLE TOWN 1109L6	0.06	0.19	1.30	3.20	0.03%
UPPER LAKE 11010CB	1.00	1.17	1.26	5.77	0.04%
KESWICK 11011586	6.66	7.83	1.25	48.84	0.17%
MIDDLETOWN 110130N50	4.71	12.04	0.92	48.56	0.23%
KONOCTI 1102965078	5.61	17.65	0.88	51.70	0.42%
MARIPOSA 2102241564	0.64	18.29	0.77	10.81	0.44%
BUCKS CREEK 11010CB	4.29	22.58	0.72	3.55	0.47%
SILVER MOUNTAIN 11029646	0.09	22.67	0.74	4.38	0.47%
MIDDLETOWN 1102CB	0.42	23.08	0.72	8.70	0.48%
MIDDLETOWN 1103830	24.80	47.88	0.72	151.83	0.87%


Key Takeaways

- Mitigating 25 of the 50 riskiest miles within PG&E's service territory would reduce ~0.5% of PG&E's total wildfire risk.
- On each project selected a more granular risk spend efficiency calculation will be performed on an NPV basis once the project is fully scoped.



Target Setting

11/20/2014



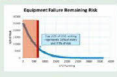
System Hardening

Conditions

Condition 1: 80%¹ of system hardening miles have to be high-risk miles or LTIP is 0

Risk Profile (High Risk Miles defined as)

1. Top 20%² of risk buydown curve
2. Fire rebuild miles
3. PSPS mitigation miles



Condition 2: Set minimum percentage of miles mitigated with either Line Removal or Undergrounding or LTIP is 0

Risk Effectiveness

- 5%, 10% and 35% of Undergrounding work in the System Hardening project portfolio in 2021, 2022 and 2023, respectively

Risk Exposure

- Count of circuit miles system hardened in the HFTD and HFRA areas

System Hardening Targets (Risk Miles)

	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	305	320	350
2022	350	368	403
2023	396	416	455
2021-2023	1,051	1,103	1,209

1. Basis of the 80% is to allow for operational execution considerations including permitting, weather related access, and mob/demob efficiencies

2. Basis of the top 20% correlates to ~70% of the risk on the risk buydown curve

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Enhanced Vegetation Management (EVM)

Conditions

Condition 1: 80%¹ of EVM miles have to be high-risk miles or LTIP is 0

- Risk Profile (High Risk Miles defined as)**
- Top 20%² of risk model buydown curve
 - Fire impacted miles

Risk Effectiveness

- Execute work consistent with defined EVM scope
 - Achieve 12' recommended radial clearance
 - Access viable potential trees including high risk species
 - Remove overhangs above and within 4 feet of power lines
 - Mitigate vegetative fuels under and adjacent to powerlines on targeted basis

Risk Exposure

- Count of EVM miles worked in the HFTD and HFRA areas

EVM Targets (Risk Miles)

	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	1,800	1,890	2,070
2022	1,800	1,890	2,070
2023	1,800	1,890	2,070
2021-2023	5,400	5,670	6,210

1. Basis of the 80% is to allow for operational execution considerations including permitting, weather-related access and customer approvals
2. Basis of the top 20% correlates to ~85% of the risk on the risk buydown curve

The LTIP targets for system hardening are set based on 2021 risk area miles and program funding assumptions

Program Funding

- Forecast of [redacted] Wildfire Mitigation capital spend (bulk of which is System Hardening) in 2021 consistent with the Settlement for the 2020-2022 GRC. 2022 forecast escalates 2021 by 15% and 2023 forecast escalates 2021 by 30%.

Unit Costs

- Assumes [redacted] per circuit miles of Overhead SH work and [redacted] for Underground work

Program Duration

- Execution of the 13-year plan focusing on top 20% circuit protection zones by 2032

	System Hardening LTIP Targets		
	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	305	320	350
2022	350	368	403
2023	396	416	455
2021-2023	1,051	1,103	1,209

Targets are miles of system hardening work for specific risk-prioritized work

- The total mileage of the proposed 2021 Project Portfolio was set as the threshold goal (LTIP 0.5) for 2021.
- LTIP 0.5 goals in 2022 and 2023 reflect escalation of program funding level.
- The target and stretch goals (LTIP 1.0, 2.0) were set as 5% and 15% higher, respectively.

[redacted] includes other capital mitigation work as well as scoping and engineering for future system hardening projects beyond 2021



The LTIP targets for EVM are set based on work to be completed over the remaining ten years of the program

- Program Duration**
 - Assumes execution of the 12-year Enhanced Vegetation Management Plan (2021-2032)
 - Evaluating viability of 10-year pace (2021-2030)
- Program Funding**
 - Forecast of [redacted] spend on EVM program in 2021, 2022 and 2023 respectively (in alignment with PCIR)
 - 10-year pace will result in incremental forecast of [redacted] per year
- Unit Costs**
 - Assumes [redacted] per miles of EVM work

Enhanced Vegetation Management LTIP Targets

	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	1,800	1,890	2,070
2022	1,800	1,890	2,070
2023	1,800	1,890	2,070
2021-2023	5,400	5,670	6,210

- Targets are miles of EVM work for specific risk-prioritized work.
- The total mileage of the proposed 2021 Project Portfolio was set as the threshold goal (LTIP 0.5) for 2021
 - The target and stretch goals (LTIP 1.0, 2.0) were set as 5% and 15% higher, respectively