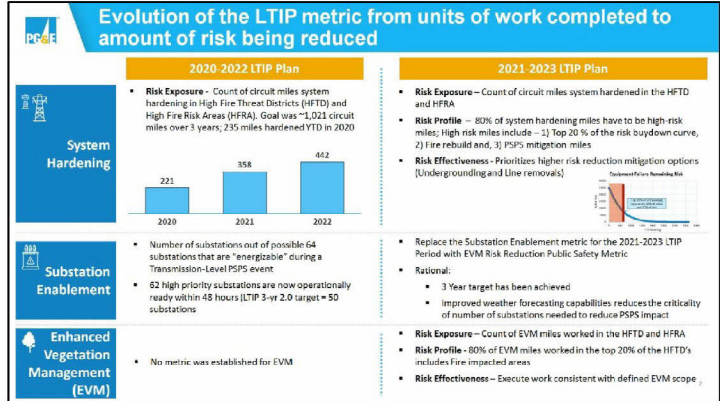


**Public Safety
Long Term Incentive Plan (LTIP)
Target Setting**

November 23, 2020



Together, Building
a Better California



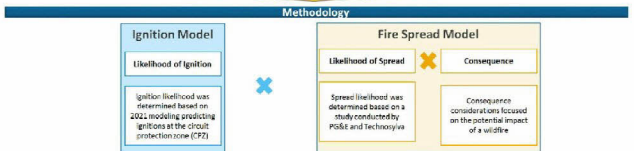
Risk Model and Risk Quantification

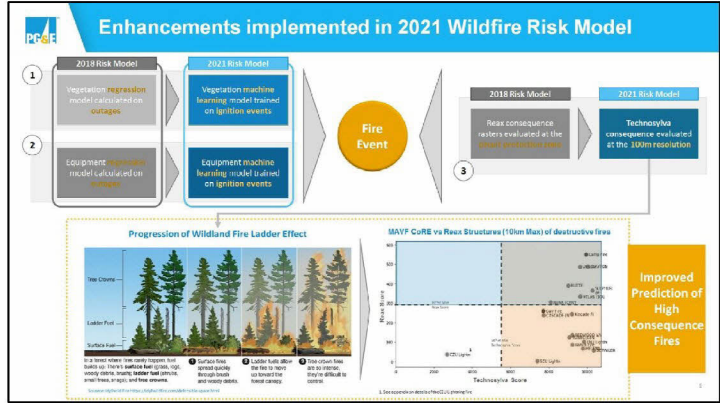
Wildfire Risk Models calculates risk units in CPUC framework

- | LoRE | CoRE |
|--|---|
| <ul style="list-style-type: none"> The likelihood of a risk event (LoRE) is the relative frequency of a specific risk event occurring. In the case of wildfire risk, this is the relative likelihood of an ignition occurring. | <ul style="list-style-type: none"> The consequence of a risk event (CoRE) is the average impact of the risk should it materialize across key outcomes (Safety, Reliability, Financial). In the case of wildfire risk, consequence contains serious injuries, fatalities, property damage, and impacts to reliability. |

Risk = LoRE X CoRE

- Risk is the product of the likelihood and consequence of a risk event.
- This method produces an expected value of impact across the consequence outcomes, and when combined results in a multi-attribute score that can inform risk-based decision making.

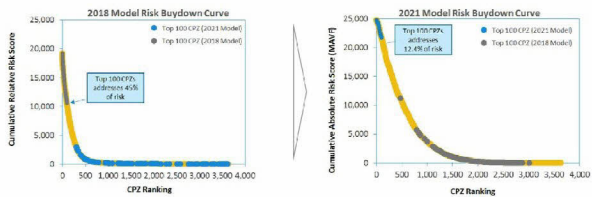






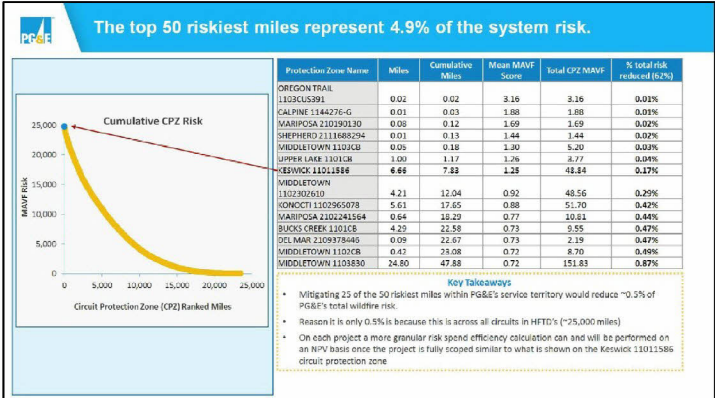
Risk models provide risk buydown curves to guide workplan

The risk buydown curve shows the amount of risk that can be addressed with every subsequent mile within a 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 CPZ as you move down the prioritization list.



Equipment (Conductor) Risk Buydown curves highlight the significant shift of where the top 100 CPZ's are between the two models primarily as a result of the shift in the consequence model

Project Example



Project Example: Keswick **Circuit Protection Zone**

Keswick Circuit Protection Zone

- 5.8 Miles in total, the 100m x 100m squares are the absolute risk values for each section of that protection zone
- The total protection zone absolute risk score is 48.84 risk units (sum of all the 100m squares along the circuit)

the CPZ mean risk score of 1.25

Category	Overhead Hardening	Under-grounding	50%-50% OH / UG
Mean Risk Score	30.28	48.35	39.32
Total	18.56	0.88	4.52
NPV @ 7% discount rate	b.b	b.b	b.b

Assumptions:

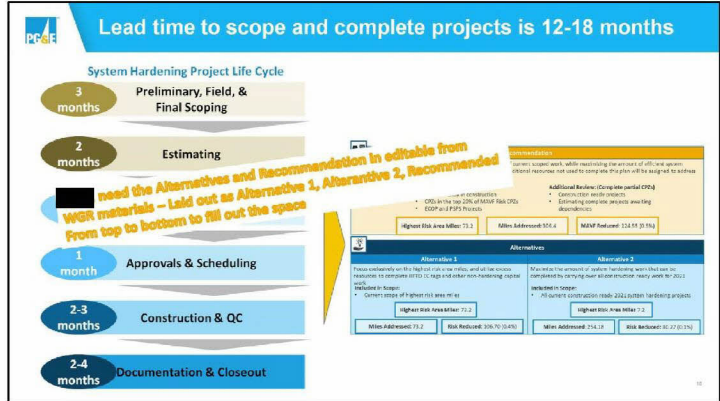
- Discount Rate: 7%, Cost Escalation / Inflation: 3% (inline with major project business cases)
- Benefit Duration: 30 years for OH and 60 for UG (inline with capital accounting)
- Routine Veg Tree Count / Mile: 90/79
- PSM Cost of Reenergization: [redacted] / mile
- Patrols and Inspections: [redacted] mile for OH and [redacted] mile for UG

Financial Summary:

US System Hardening (rate)	\$ -
Total Capital Cost	\$ -
Per Year O&M Spend	\$ 88
NPV @ 7% discount rate	[redacted]
\$ NPV per unit of risk (RSE)	[redacted]

Handwritten Notes:

- Need to get the items in the tables filled out.
- need to check with EPC major projects On the 7% and 3% numbers and with capital accounting On 30 year - depreciation for OH and 60 year - depreciation for UG



Target Setting

11/1/2024

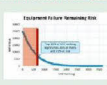
System Hardening

Conditions

Condition 1: 80% of system hardening miles have to be high-risk miles over the three-year period or LTP is 0

Risk Profile (High Risk Miles defined as)

- Top 20% of risk buydown curve
- Fire rebuild miles
- PSPS mitigation miles



Condition 2: Set minimum percentage of miles mitigated with either Line Removal or Undergrounding over the three-year period or LTP is 0

Risk Effectiveness

- 20% of Undergrounding or Line Removal work in the System Hardening project portfolio¹

Risk Exposure

- Count of circuit miles system hardened in the HFTD

System Hardening Targets (Risk Miles)

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

see changes in Condition language to span three years and get out of the hurdle for 2021.

- Basis of the 80% is to allow for operational execution considerations including permitting, weather related access, and mob/demob efficiencies
- Basis of the top 20% correlates to ~70% of the risk on the risk buydown curve
- Risk reduction effectiveness for Overhead Hardening is estimated at 62% and Undergrounding or Line Removal is estimated at 90%



Enhanced Vegetation Management (EVM)

Conditions

- Condition 1: 80% of EVM miles have to be high-risk miles over the three-year period or LTIP is 0**
- Risk Profile (High Risk Miles defined as)**
 - Top 20% of risk model buydown curve
 - Fire impacted miles
- Risk Effectiveness**
 - Execute work consistent with defined EVM scope
 - Achieve 2.2' recommended radial clearance
 - Assess shrub 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

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

Note: Targets are based on 13-year EVM consistent with 01 - 2013; # (2021 - 2023).

see changes in Condition language to span three years and get out of the hurdle for 2021.

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 miles and program funding assumptions

Program Funding
 • Forecast of [redacted] Wildfire Mitigation capital spend in 2021 consistent with the Settlement for the 2020-2022 GRC. 2022 forecast escalates 2021 by 13% and 2023 forecast escalates 2021 by 30%.

Unit Costs
 • Assumes [redacted] per circuit miles of Overhead S11 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 scoping and engineering costs for future system hardening projects beyond 2021 and additional minor capital spend for other Wildfire Mitigation Programs

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

- Program Duration**
- Assumes execution of the 12-year Enhanced Vegetation management Plan (2021-2032)
 - Forecasting 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 POR)
 - 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.

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Appendix

10/20/2024

Review of Work Plans

CZU Lightning Complex Fire Map

Source: fire.ca.gov

Source: CAL FIRE

Damage Overview

- 86,500 acres burned
- Active for 37 days
- 1,490 structures destroyed
- 140 structures damaged
- 1 injury
- 1 fatality

Fire Description and Observations

- The wildfires started at 8:41 AM on August 18, 2017 and were the result of a thunderstorm that produced close to 11,000 bolts of lightning and started hundreds of fires throughout California
- The lightning strikes initially started fires separately known as the Warneria Fire near Davenport and the Waddell Fire, near Waddell Creek, as well as three fires on what would become the northern edge of the CZU Complex Fire.
- Two days after the fires began, a change in wind conditions caused these three northern fires to rapidly expand and merge, growing quickly to over 40,000 acres
- The modeling complexity of this wildfire is such that it would require taking into account the hundreds of fires that were started rather than treating this as a single wildfire

A presentation slide titled "Work Plan Sign Off". The slide has a blue header bar with the PGE logo on the left and the text "Work Plan Sign Off" on the right. The main body of the slide is white and contains a large, empty rectangular box, likely intended for a signature or a date. A small number "18" is visible in the bottom right corner of the slide's content area.

PGE Work Plan Sign Off