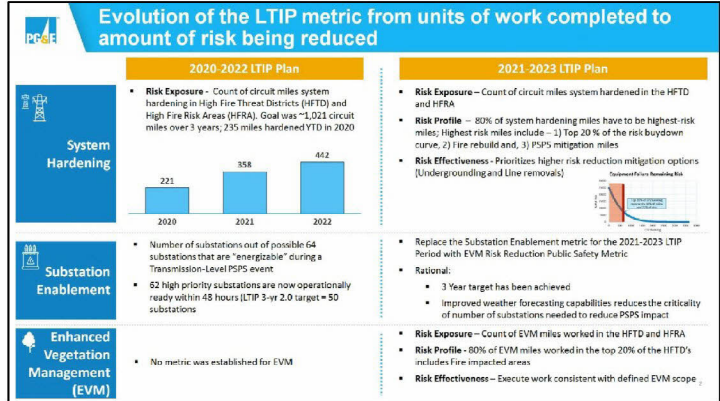


**Public Safety
Long Term Incentive Plan (LTIP)
Target Setting**

January 11, 2021



Together, Building
a Better California





Why System Hardening and Enhanced Vegetation Management?

System Hardening (SH) and Enhanced Vegetation Management (EVM) focus on mitigation of potential wildfire risk from Distribution Overhead Assets, which have resulted in a significantly higher number of ignitions (nearly 90% of the total CPUC Reportable ignitions from 2015 – 2020 YTD)

- Distribution assets represent high ignition risk due to a combination of high exposure area (overhead assets traversing HFTDs), proximity to risk factors (vegetation), and intrinsic asset characteristics
- SH and EVM mitigation work focus on mitigating these risk factors on Distribution Assets and are key mitigation programs to continue addressing potential wildfire risk

Initiating Cause	2015 - 2020 YTD ¹ CPUC Reportable Ignitions in HFTD		Estimated Ignitions per 1,000 Circuit Miles in HFTD ²	
	Distribution	Transmission	Distribution	Transmission
Equipment – PG&E	217	30	8.5	5.4
Vegetation	305	11	11.9	2.0
All Other ³	195	34	7.6	6.1

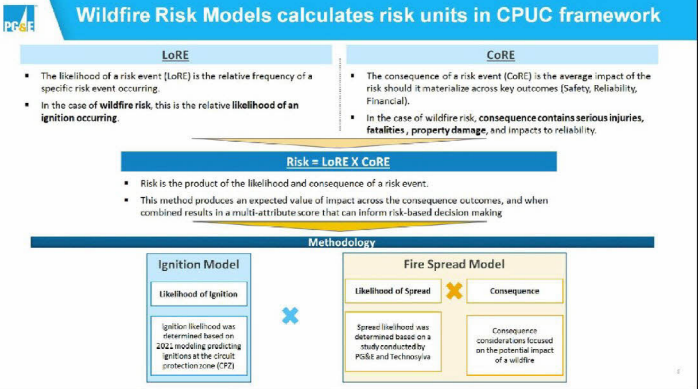
For Equipment driven ignitions, the Distribution ignitions per Mile rate is 1.6x greater than Transmission

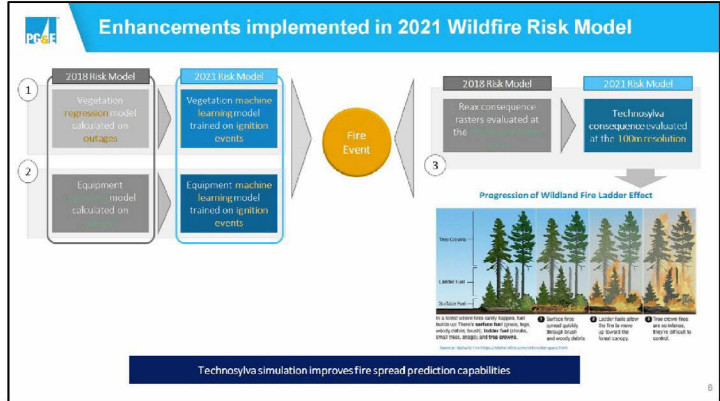
For Vegetation driven ignitions, the Distribution rate is 6x greater than Transmission

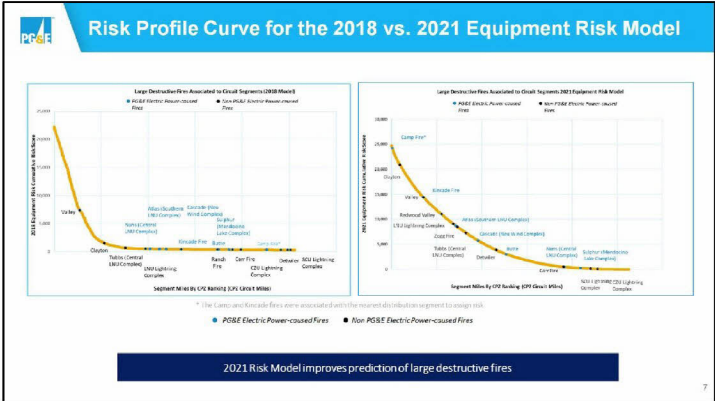
1. YTD represents data as of the end of September, 2020
 2. Circuit mileage in HFTD area source: 2020 wildfire safety Plan – 25,598 of distribution overhead mileage in HFTD area, 5,542 of transmission overhead mileage
 3. Other includes ignitions primarily driven by 3rd party and animals

Risk Model and Risk Quantification

1/1/2009



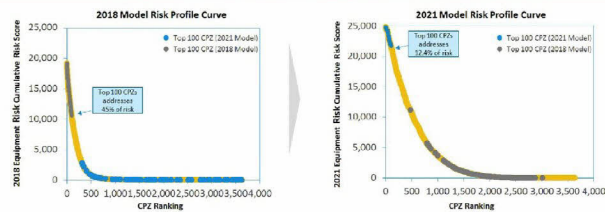






Risk models provide risk profile curves to guide workplan

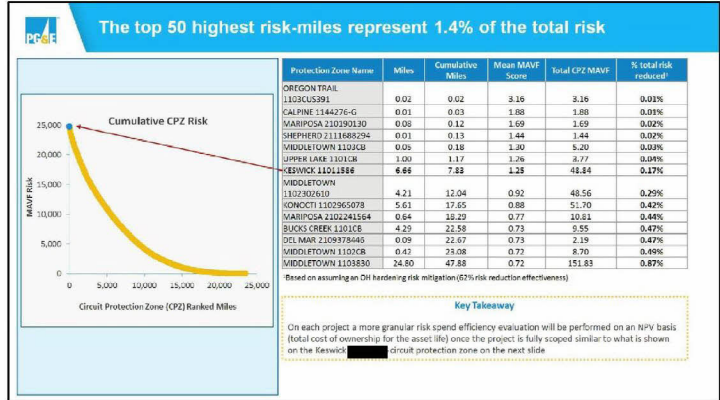
The risk profile curve shows *the amount of risk that can be addressed* with every subsequent mile within a Circuit Section or CPZ that is mitigated. This view illustrates the relative magnitude of risk associated with the top 100 CPZs and the visualization highlights the consolidation of risk by CPZ as you move down the prioritization list.

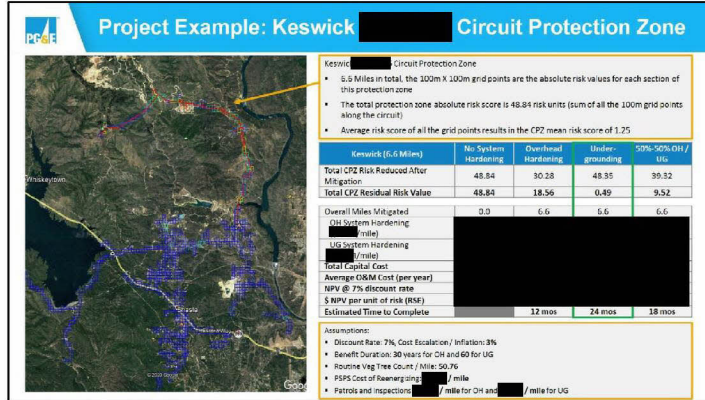


The improvement in the Risk Model results in a significant shift in the highest risk circuit protection zones

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Project Example





Target Setting

12/20/2024

System Hardening

Conditions

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

Risk Profile (Highest Risk Miles defined as)

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

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

Risk Effectiveness

- 10% of Undergrounding or Line Removal work in the System Hardening project portfolio¹

Risk Exposure

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

System Hardening Targets (Risk Miles)

	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	180	199	208
2022	423	464	485
2023	423	464	485
2021-2023	1,026	1,127	1,178

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

3. Risk mitigation effectiveness for Overhead Hardening is estimated at 62% and Undergrounding or Line Removal is estimated at 90%

System Hardening targets are set based on 2021 risk miles and program funding assumptions

Program Funding

- Forecast of [redacted] and [redacted] Wildfire Mitigation capital spend in 2021 and 2022, respectively, consistent with the Proposed Decision Revision for the 2020-2022 GRC. 2023 Wildfire Mitigation capital spend is forecasted at the 2022 level.

Unit Costs

- Assumes [redacted] per circuit miles of Overhead S11 work and [redacted] for Underground work.

Program Pace

- Get to steady pace of 450-500 high risk miles / year.

System Hardening LTIP Targets

	LTIP 0.5	LTIP 1.0	LTIP 2.0
2021	180	199	208
2022	423	464	485
2023	423	464	485
2021-2023	1,026	1,127	1,178

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 goal in 2022 reflects escalation of program funding level; the 2023 LTIP 0.5 goal is set equal to the 2022 level based on the 2023 GRC funding level forecast.
- The target and stretch goals (LTIP 1.0, 2.0) were set as 10% 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 ¹⁴

Enhanced Vegetation Management (EVM)

Conditions

Condition 1: 80% of EVM miles have to be highest-risk miles over the three-year period or LTIP is 0

Risk Profile (Highest Risk Miles defined as)

- Top 20% of risk model buydown curve
- Five 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	5,570	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 true risk on the risk buydown curve

EVM targets 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)
- Evaluating viability of 10-year pace (2021-2030)

Program Funding

- Forecast of [redacted] and [redacted] spend on EVM program in 2021, 2022 and 2023 respectively (in alignment with POR)

Unit Costs

- Assumes [redacted] per miles of EVM work.

Enhanced Vegetation Management LTP Targets

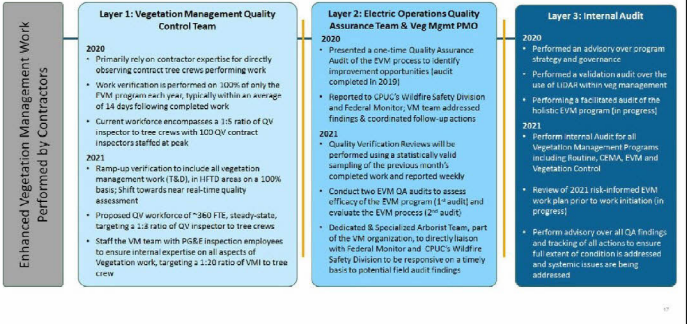
	LTP 0.5	LTP 1.0	LTP 2.0
2021	1,800	1,890	2,070
2022	1,800	1,890	2,070
2023	1,800	1,890	2,070
2021-2023	5,400	5,670	6,210

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 (LTP 0.5) for 2021
- The target and stretch goals (LTP 1.0, 2.0) were set as 5% and 15% higher, respectively



EVM Quality Control – Layers of Defense





Governance and Oversight

Wildfire Risk Governance Committee

- System Hardening project lists (by CPZ) consistent with the Target Setting methodology will be formally approved annually by the Chief Risk Officer
- Enhanced Vegetation Miles (by CPZ) consistent with the Target Setting methodology will also be formally approved annually by the Chief Risk Officer

PG&E Board – SNO and Compensation Committees

- Annual submission of a) System Hardening project list and b) specific locations of the Enhanced Vegetation Management miles to the SNO and Compensation Board Committees by the Chief Risk Officer
- Monthly progress updates on plan vs. actual for both System Hardening and Enhanced Vegetation Management including completed work quality performance will be submitted to the SNO and Compensation Board Committees by the Chief Risk Officer

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Appendix

11/1/2024

CZU Lightning Complex Fire

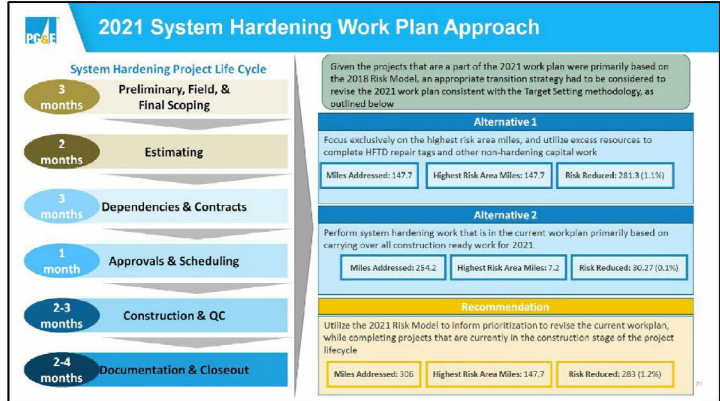
Source: CAL FIRE

Fire Description and Observations

- The wildfires started at 6:41 AM on August 16, 2023 and was the result of a thunderstorm that produced close to 13,000 bolts of lightning and started hundreds of fires throughout California.
- The lightning strikes initially started fires separately known as the Wasmella 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.
- This was not one fire but a merging of small fires into one massive fire. Our current consequence models focus on potential fires growing from one ignition point as compared to simulating the fire behavior of multiple ignition points combining into one fire.
- 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.
- Also, the focus of our consequence model evaluates the potential ignition points from our overhead electric distribution circuits in HTDs and several of the ignition points for this fire occurred where none of our assets existed.

Damage Overview

 86,509 acres burned	 Active for 37 days	 1 fatality	 140 structures damaged
 1 injury	 1,490 structures destroyed		



Selected list of most destructive fires in the past thirty years

Fire Name	Cause	Date	County	Acre	Structures Damaged	Deaths	PGE/Electric Power caused
Alvord - Oldman Falls	Arson	Oct-08	Deschutes	1030	27500	25	No
Conza	Uninvestigated	Oct-09	Shasta	26,000	354	3	No
Condo	Human Related	Oct-03	San Diego	272,940	2800	15	No
DM	Human Related	Oct-03	San Bernardino	91,281	1,003	0	No
Waco	Powerline	Oct-01	San Diego	151,000	1,400	2	No
Crab	Electrical (Transformer)	Sept-25	Los Angeles	70,000	1,900	4	No
Buho	Powerline	Sept-22	Arizaba, Oaxaca	70,000	323	2	Yes
Chaparral	Arson	Aug-09	Utah	9,919	600	0	No
Estover	Firearm	Aug-27	Maricopa	81,000	133	0	No
Elroy	Electrical (Transformer)	Oct-17	Monte and Serrano	20,000	1500	12	No
Elora	Powerline	Oct-17	Sonoma	24,000	1,200	3	Yes
Elita	Powerline	Oct-17	Maricopa	32,000	180	0	Yes
Redwood Valley	Powerline	Oct-17	Glenn	46,000	140	0	No
Grassland (New West Campus)	Powerline	Oct-17	Yuba	5,000	204	4	Yes
Elbert	Powerline	Oct-17	Utah	4,000	100	0	Yes
Elmore	Powerline	Oct-17	Yonkers, Santa Barbara	29,000	1,000	2	No
Elm	Human Related	Jul-18	Shasta County, Trinity	275,000	1,000	8	No
Complex	Powerline	Nov-18	Utah	110,000	1,000	0	Yes
Moody	Under Investigation	Nov-18	Ventura	96,000	1,000	3	No
Wendy	Powerline	Oct-19	Sonoma	27,000	170	0	Yes
Woodline	Human Related	Nov-19	Utah	2,500	0	0	No
August Complex	Under Investigation	Aug-22	Maricopa, Humboldt, Trinity, Sierra, Glenn, Lake, Colusa	1,000,000	900	2	No
East Complex	Under Investigation	Aug-22	Butte, Plumas, Yuba	1,000,000	2,000	15	No
14th Lighting Complex	Under Investigation	Aug-22	Los Angeles, Santa Monica, Ventura	100,000	1,000	0	No
17th Lighting Complex	Under Investigation	Aug-22	San Diego, San Bernardino	80,000	1,000	1	No
18th Lighting Complex	Under Investigation	Aug-22	San Diego, Alameda, Stanislaus	80,000	1,000	0	No
Chase Fire	Under Investigation	Sept-20	Butte, Colusa	47,000	1,000	0	No
Creek Fire	Under Investigation	Sept-20	Francis, Medina	177,000	800	0	No

*All fires have been reviewed and approved by the fire marshal.
 **Fire caused by PGE Electric power