Submission in Support of Wildfire Fund SB 254 Natural Catastrophe Resilience Study

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Topic Area: Additional mitigation measures and technology solutions to reduce the risk of ignition of wildfires and limit the spread of damage from wildfires

Proposed use of Technology for Statewide Wildfire Mitigation Tracker for Electric-Grid Risk Reduction

California faces an urgent need to systematically track, evaluate, and optimize electric-grid wildfire mitigation investments across all electric grid utilities. Despite billions of dollars invested annually in wildfire mitigation, the state lacks standardized metrics for comparing mitigation effectiveness, transparent tracking of risk reduction achieved per dollar invested, coordinated planning between utility grid hardening and community fuels reduction, data-driven prioritization of high-consequence areas, and accountability mechanisms that demonstrate measurable progress toward wildfire resilience goals. This information gap prevents optimal allocation of ratepayer funds, limits regulatory oversight effectiveness, and inhibits collaborative risk reduction between utilities, fire agencies, and local governments.

We propose establishing a Statewide Wildfire Mitigation Tracker that provides transparent, data-driven oversight of utility wildfire risk reduction efforts. This tracker would serve as the central platform for California to evaluate where wildfire risk investment opportunities exist, how effective each mitigation strategy is in different contexts, and how to track statewide progress toward wildfire resilience. The system would enable coordination between grid hardening, vegetation management, and stakeholder partnerships for fuels thinning while quantifying both reduced ignition risk and the reduction in fire spread and associated costs.

The tracker should provide comprehensive visibility into utility wildfire mitigation activities through six core capabilities:

- Mapping opportunity zones for coordination between grid hardening, veg management and fuels thinning
- Identify risk bought down per grid hardening treatment option per feeder

- Evaluate efficacy and cost-benefit of strategies proposed and invested in
- Simulate impacts to communities based on what grid hardening investments are made:
    - People exposed to PSPS events
    - People exposed to electric-grid caused fire
- Simulate and forecast impacts of wildfire mitigation plans from electric grid utilities
- Track statewide progress towards wildfire resilience and risk reduction

Mapping opportunity zones

The tool should map opportunity zones for coordinated risk reduction by identifying geographic areas where multiple mitigation strategies can work synergistically. This includes overlaying utility grid hardening projects with vegetation management zones, mapping opportunities for coordination between utility activities and state and local fuels thinning programs, identifying single-egress communities near power infrastructure requiring priority attention, and visualizing critical infrastructure exposure to utility-caused fire risk. This capability prevents duplicative efforts, maximizes risk reduction per dollar invested, and enables strategic partnerships between utilities and fire agencies.

Identify risk bought down with grid hardening investments

The tracker must identify risk bought down per grid hardening treatment option per feeder by quantifying the specific risk reduction achieved by each mitigation investment. This involves calculating ignition probability reduction from each hardening measure such as covered conductor (70% ignition reduction for wind-caused fires), undergrounding (95-98% reduction across most ignition types), and fast-trip settings (82% ignition reduction). The system should model fire spread reduction from vegetation management activities (48% ignition reduction for enhanced programs), estimate consequence reduction from combined mitigation strategies, and track cumulative risk reduction over time by circuit and region. This enables data-driven investment decisions, demonstrates value to ratepayers, and provides regulatory oversight of mitigation effectiveness.

Evaluate efficacy and cost-benefit of strategies proposed and invested in

The platform should compare what utilities can invest in versus what they actually did, creating transparency around mitigation decision-making. It should display all viable mitigation options available for each high-risk area, show which strategies were selected and implemented, compare actual investments against optimal risk-reduction scenarios, and track alignment between Wildfire Mitigation Plans and actual deployment. This holds utilities accountable for strategic mitigation choices, identifies opportunities for improved targeting, and informs future WMP requirements.

Simulate impacts of PSPS and enhance coordination with emergency management

The tracker should simulate impacts to communities based on what grid hardening investments are made. This includes forecasting the number of people exposed to Public Safety Power Shutoff events under different hardening scenarios, estimating population exposure to electric-grid caused fire based on mitigation strategies deployed, projecting evacuation challenges in single-egress communities, and quantifying economic impacts of outages versus wildfire damage. This capability centers equity and community protection in mitigation planning, helps utilities balance safety with reliability, and informs emergency management preparedness.

Forecast impacts of wildfire mitigation plans

To show improvements and results over time, the tracker must forecast impacts of mitigation plans by evaluating proposed WMPs before implementation. It should model expected risk reduction from planned utility investments, identify gaps between proposed activities and optimal risk reduction, forecast community impacts under different mitigation scenarios, and support regulatory review of utility wildfire mitigation plans. This enables proactive regulatory oversight, improves WMP quality through data-driven feedback, and helps utilities optimize plans before deployment.

Track statewide wildfire resilience and risk reduction progress

The system should track statewide progress toward wildfire resilience and risk bought down by establishing baseline risk metrics and monitoring improvement over time. This includes tracking utility-caused ignition rates (weather-normalized) across utilities, monitoring acres burned and damages per ignition event, measuring percentage of high-risk circuits upgraded annually, and calculating statewide risk reduction achieved versus targets. This demonstrates accountability to the Legislature and ratepayers, enables comparison across utilities, and quantifies return on ratepayer investment in mitigation.

Outcomes

The tracker should standardize metrics aligned with Office of Energy Infrastructure Safety requirements across four categories. For ignition and fire outcomes, this includes number of utility-caused ignitions by cause and equipment type, acres burned per ignition event, weather-normalized ignition rates, and ignition probability modeling accuracy. For vegetation management, metrics should cover percentage of miles inspected and trimmed to clearance standards, number of vegetation-related outages or near-misses, tree failure incidents near power lines, and enhanced vegetation management in high-consequence areas. For asset hardening and infrastructure, tracking should include miles of conductor replaced (covered versus undergrounded), risk reduction quantified per hardening project, percentage of ignition likelihood reduced per circuit, percentage of poles replaced with fire-resistant materials, and percentage of high-risk circuits upgraded annually. For operational risk management, metrics include number and duration of PSPS events, customers affected versus ignitions avoided, non-

reclose activation frequency in high fire-threat districts, and emergency response coordination effectiveness.

Beyond utility infrastructure, the tracker should facilitate coordination with community wildfire hardening efforts. It should map utility ignition risk zones to inform home hardening program targeting, identify communities where combined utility mitigation and home hardening achieves greatest risk reduction, coordinate utility vegetation management with CalFire fuels treatment projects, model fire size reduction from strategic fuels thinning near power lines, prioritize communities with high utility-caused fire exposure for comprehensive hardening programs, and model evacuation challenges in single-egress areas near high-risk power lines.

Expected outcomes include 20-30% improvement in mitigation investment efficiency through optimized targeting, transparent accountability for billions in annual utility wildfire mitigation spending, coordinated risk reduction between utility, state and local wildfire programs, reduced PSPS impacts through strategic grid hardening in high-exposure areas, and measurable progress toward statewide wildfire resilience goals. For regulators, benefits include enhanced OEIS oversight capability for WMP review and compliance, data-driven evaluation of utility safety culture and decision-making, early identification of utilities underperforming on risk reduction, and an evidence base for refined wildfire mitigation requirements. Communities benefit from greater transparency into utility wildfire risk and mitigation activities, improved emergency preparedness through predictive PSPS forecasting, prioritization of vulnerable communities for comprehensive hardening, and reduced exposure to both utility-caused wildfire and PSPS events.

California's investment in electric-grid wildfire mitigation represents one of the largest infrastructure safety programs in the nation. A Statewide Wildfire Mitigation Tracker is essential to ensure these investments achieve maximum risk reduction, maintain accountability to ratepayers, and coordinate with broader community wildfire resilience efforts. By implementing comprehensive tracking and optimization capabilities, California can transform wildfire mitigation from a compliance exercise into a strategic, data-driven program that demonstrably protects communities while optimizing ratepayer value. This recommendation aligns with SB 254's goals of supporting wildfire mitigation, ensuring electrical corporations are accountable for safety, and protecting Californians from catastrophic wildfire risk.