CPUC's Policy Innovation Coordination Group

Identifying Emerging Technology

October 6, 2020

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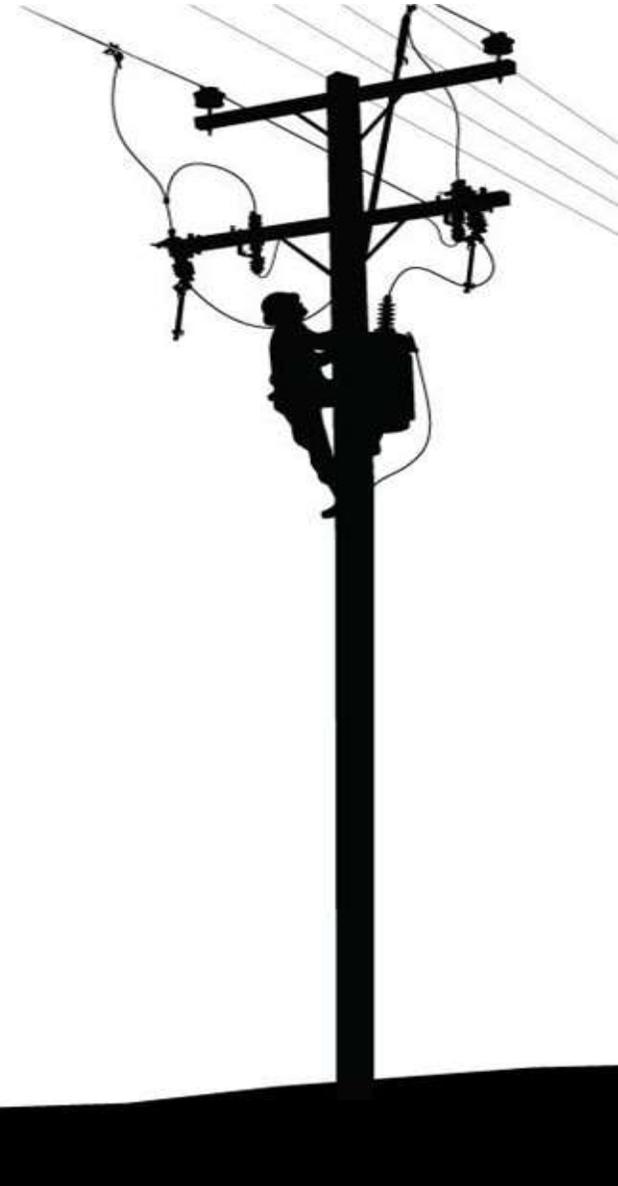
RISK MANAGEMENT AT SDG&E

Total Risk Reduction vs Cost

Enterprise Risk Management

Annual company-wide process to assess enterprise risks and informs General Rate Cases
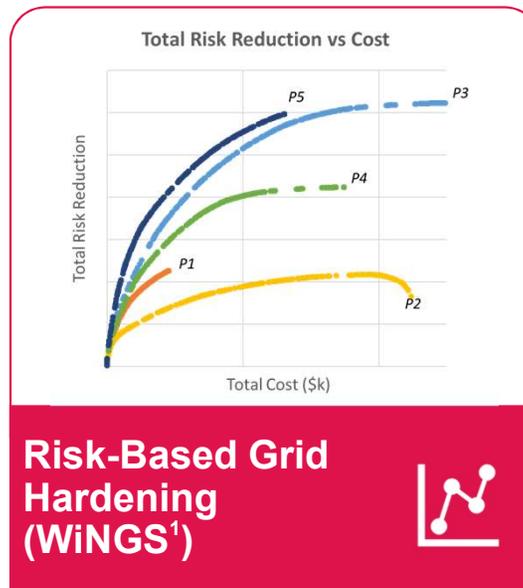
Risk-Based Grid Hardening (WiNGS[1])

New risk-based decision-support tool for segment risk analysis to identify mitigations to reduce wildfire and PSPS risks
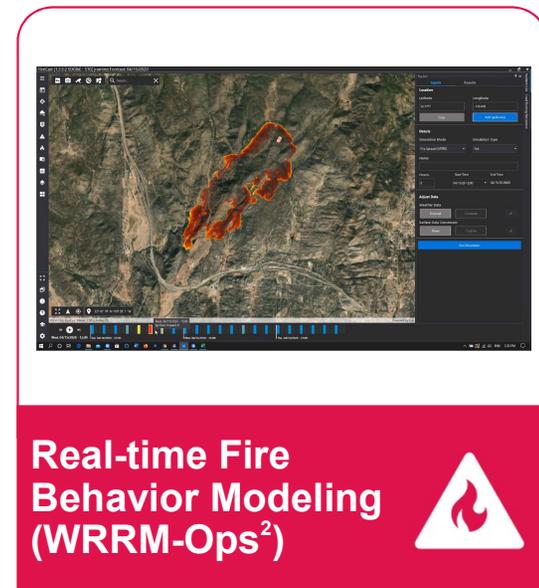
Real-time Fire Behavior Modeling (WRRM-Ops[2])

Fire simulation tool used to guide operational decisions during fire season and high-risk weather events

1) Wildfire Next Generation System (WiNGS) is a risk and cost assessment tool to help inform wildfire and PSPS risk mitigation
2) Wildfire Risk Reduction Model (WRRM) used for real-time decision-making during fire season

RISK-BASED GRID HARDENING

Current State: Established methodologies for prioritizing wildfire mitigations at the asset level to inform system-level assessments across portfolio of wildfire mitigation programs

Asset-Level Strategies

- Targeted investments to replace high risk equipment
- Use of Public Safety Power Shutoffs (PSPS) to reduce fire risk
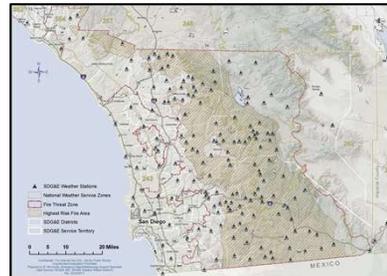
System-Level Strategies

- Annual enterprise risk management process
- Risk Spend Efficiency assessments at the program level (RAMP)

Spectrum of Granularity

RISK-BASED GRID HARDENING

Future State: *Include a level of granularity between asset-level and system-level that accounts for PSPS and wildfire mitigation risk reduction relationship*

Pole #1   Pole #2   Pole #3

Weather Station

System-Level Strategies
- Annual enterprise risk management process
- Risk Spend Efficiency assessments at the program level (RAMP)

Segment-Level Strategies
- Targeted investments based on segment-level risk
- Includes review of wildfire risk and PSPS risk reductions

Asset-Level Strategies
- Targeted investments to replace high risk equipment
- Use of PSPS to reduce fire risk

Spectrum of Granularity

WiNGS

A risk-based decision-support tool to determine **most cost-effective investments in terms of wildfire and PSPS risk reduction**

What's our current risk level today?   *Which mitigation is most cost-effective?*   *What's the right mix of strategies to deploy?*

Baseline Risk Level

Fire Risk
- Likelihood
- Consequence
→ Segment Fire Risk Score

PSPS Risk
- Likelihood
- Consequence
→ Segment PSPS Risk Score

Segment Overall Risk Score

Alternatives Analysis

Underground

Covered Conductor

Generation

Traditional Hardening

Portfolio Analysis

1. Traditional Hardening
2. Generation
3. Significant Hardening
4. Limited Hardening
5. Optimal RSE
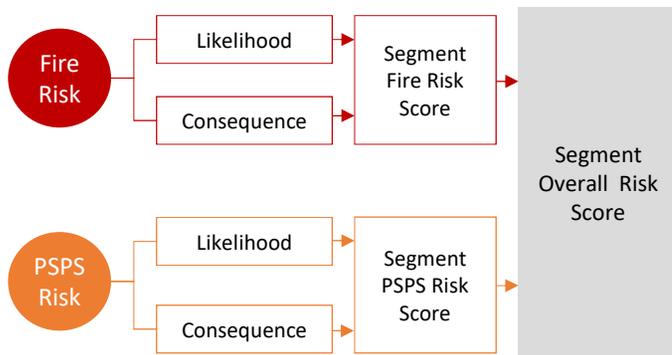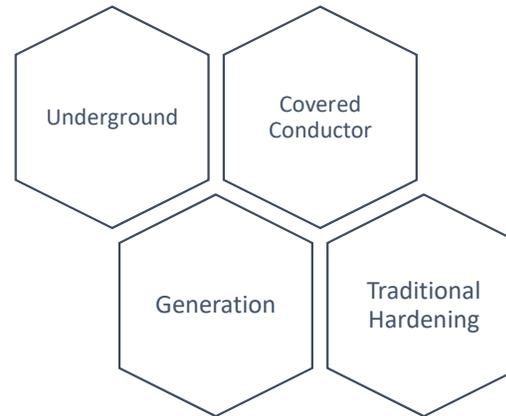
Build a Better Business

2020 TOP WILDFIRE ADVANCEMENTS
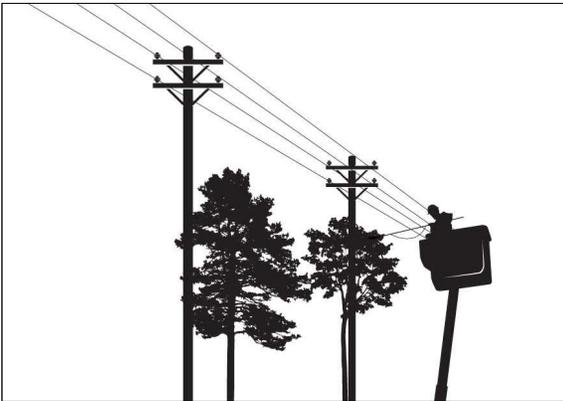
1. 25-30% reduction in PSPS-impacted customers: accelerated grid hardening

2. More weather stations + circuit sectionalizing switches

3. Artificial intelligence-based predictive models

4. Falling conductor protection, high-speed relays

5. Drones: 30,000 poles assessed in highest risk areas

6. Microgrids – 4 in 2020

7. New Vegetation Risk Index

8. Vegetation Management Systems

9. Portable generators offered to all 2019 PSPS medical baseline customers

10. New PSPS app + geo-targeted cell phone alerts

Build a Better Business

VEGETATION MANAGEMENT & FUEL MANAGEMENT

Vegetation Management

Programs include:

- Inventory Trees
- Enhanced Clearances
- Pole Brushing
  - ✓ Has been in place for many years and is fuels management

Fuels Management

- ✓ Newer program and currently focused on private properties
- ✓ Agency land fuels management has been challenging

Questions