

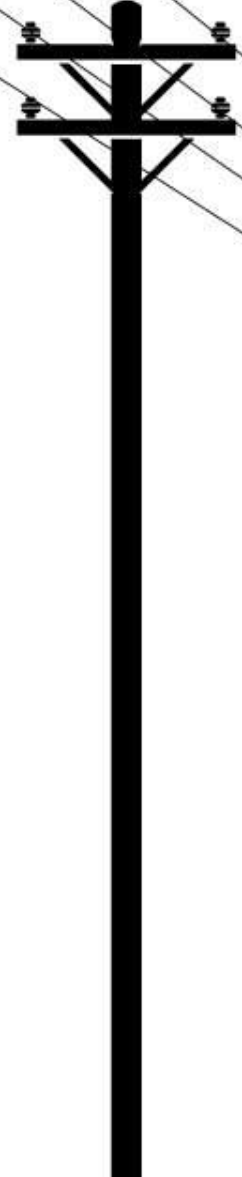


**& WILDFIRE
SAFETY**

CPUC'S POLICY INNOVATION COORDINATION GROUP

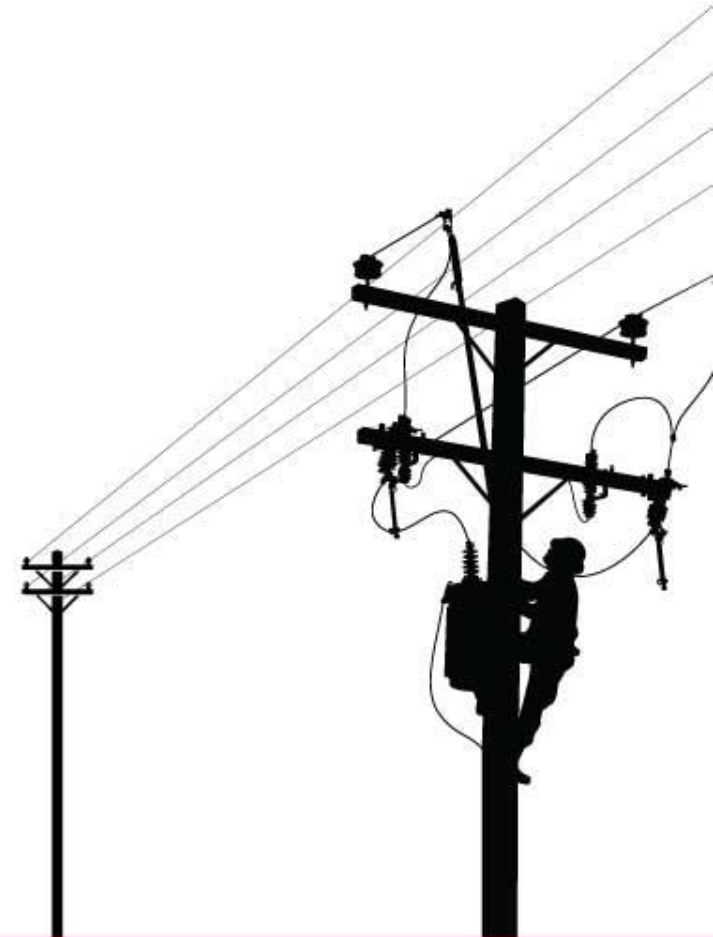
PSPS Data Analytics

Robert Flamenbaum and Nisha Menon



AGENDA

1. Public Safety Power Shutoff (PSPS) Journey
2. Data Analytics Maturity
3. PSPS Decision Making Factors
4. Current State of PSPS analytics
5. Ongoing Analytics Improvements
6. Future Vision



Public Safety Power Shutoff (PSPS) Journey



A Sempra Energy utility®

Start

2010

- Weather Stations
- Remote distribution sectionalizing devices



2015

- Improved analytics
 - Fire Potential Index
 - Santa Ana Wildfire Threat Index



2019

- Vegetation Risk Index
- 95th and 99th wind speeds
- Operational Wildfire Risk Reduction Model (WRRM-Ops)



2020¹ and beyond

- Circuit Risk Index
- Wildfire Next Generation System Ops

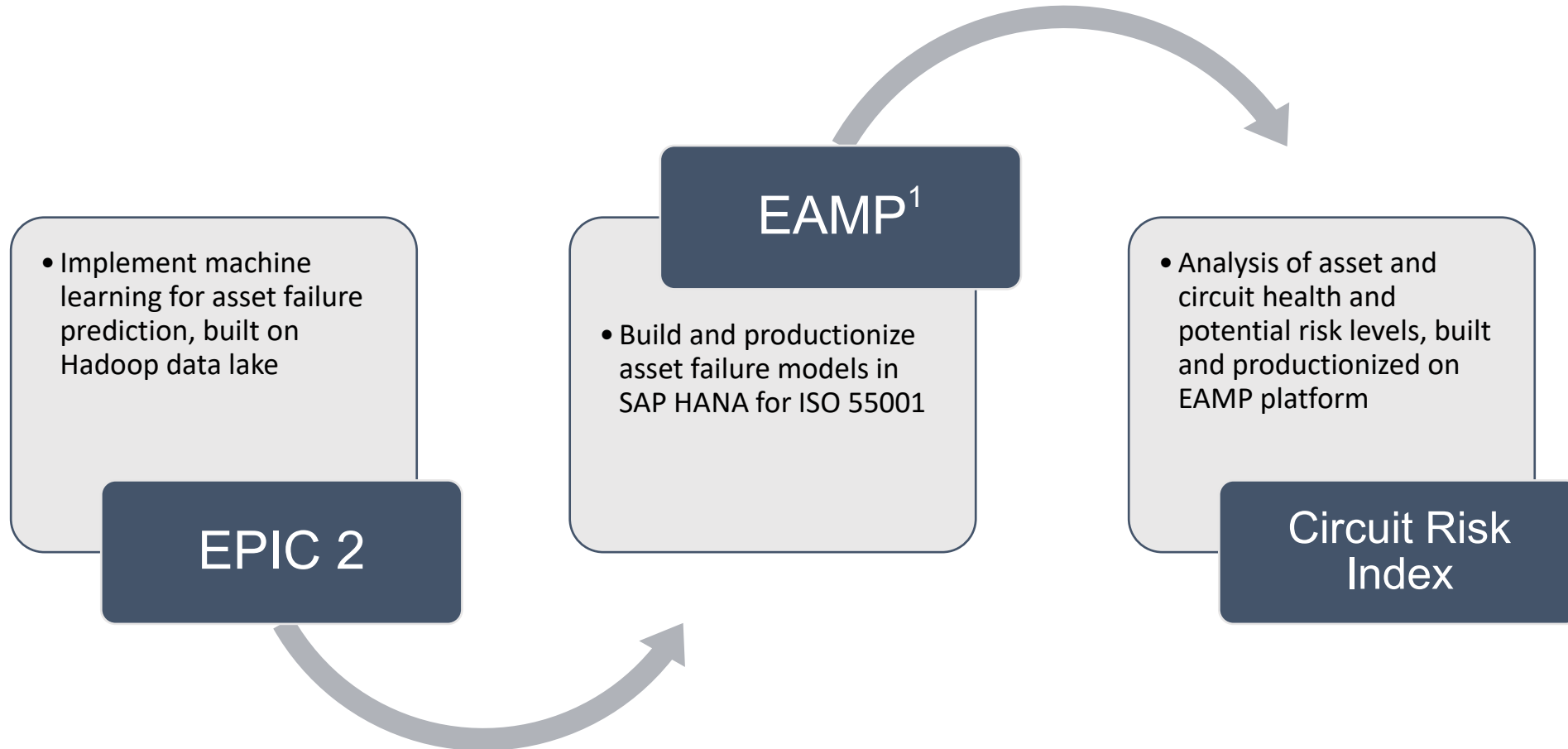
1) Analytical tools developed in 2020 are still in-progress and are not part of decision-making at this stage

EPIC-2, Project 2

Data Analytics in Support of Advanced Planning and System Operations



A Sempra Energy utility®



1) EAMP: Enterprise Asset Management Program

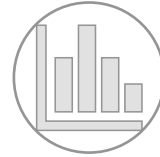
Data Analytics Maturity

Current State

Future State



Subjective



Relative



Predictive



Ad-hoc decision-making primarily based on subject matter expertise

Proactive decision-making based on subject matter expertise supported by relative assessments

Proactive decision-making based on predictive assessments supported by subject matter expertise

PSPS DECISION-MAKING FACTORS



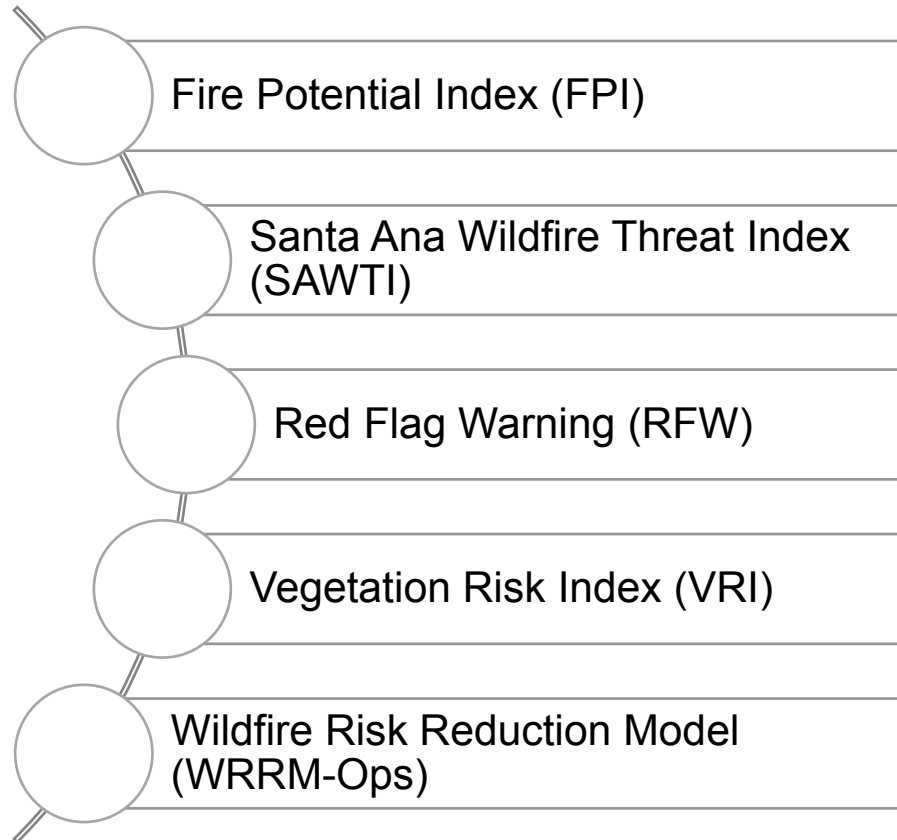
A Sempra Energy utility®



CURRENT STATE OF ANALYTICS



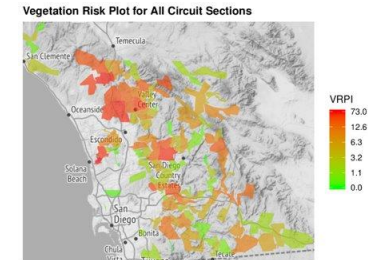
A Sempra Energy utility®



High-Speed Weather Data



Vegetation Risk Index



WRRM-Ops



PSPS Dashboard SDG&E

Anemometer	VRI	Section	Tie Line	Sub	Dist/FPI	Cust #/99		95/99	
						Out	Forecast	Per	Gust
Sill Hill	M	79-799R*	626	DE	ME/15	20/19	73	60/81	54
Round Potrero	L	157-75R	6923; 50003	BAR	ME/15	320/337	45	40/50	46
Crestwood	L	445-23R*, 1215-12R	6931; 629; 6958	BUE, CW	ME/15	490/480	53	47/58	40
Tierra Del Sol	M	445-24R*		BUE	ME/15	167/0	41	37/44	40
Anderson Valley	L	357-1299R		AL	EA/15	10/0	41	36/48	39
La Posta	L	441-23R, 1215-12R	629; 6958; 50003	GC, CW	ME/15	244/136	50	45/54	38

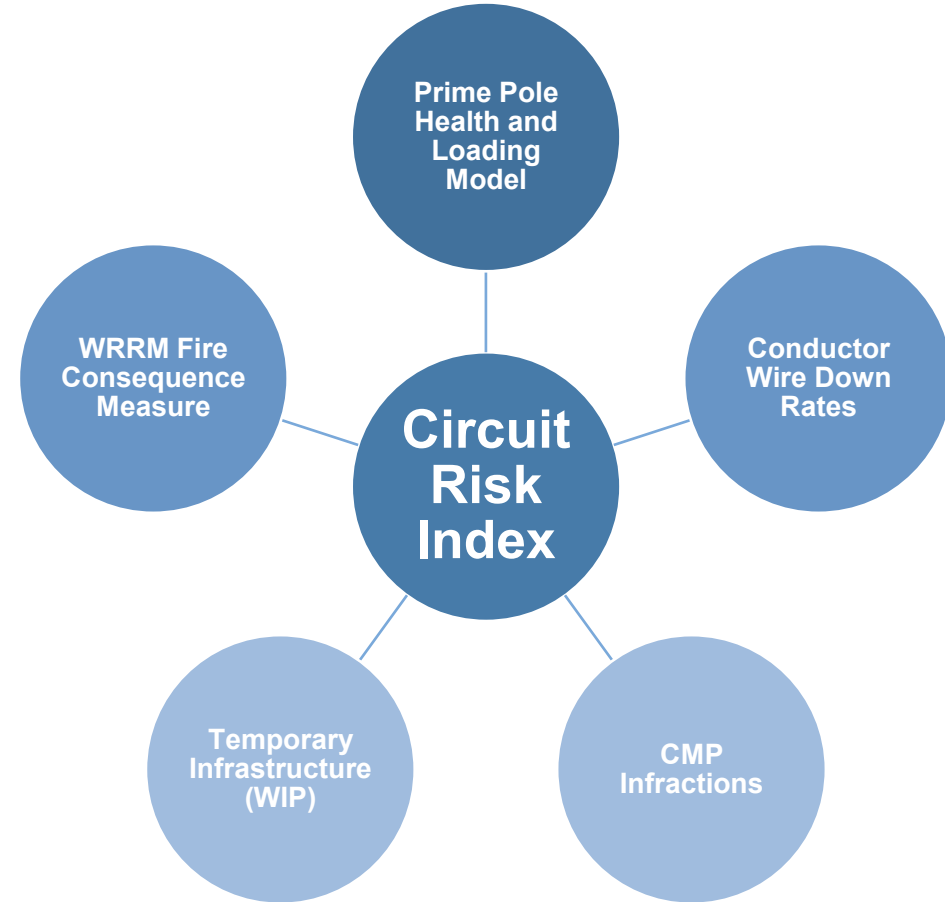
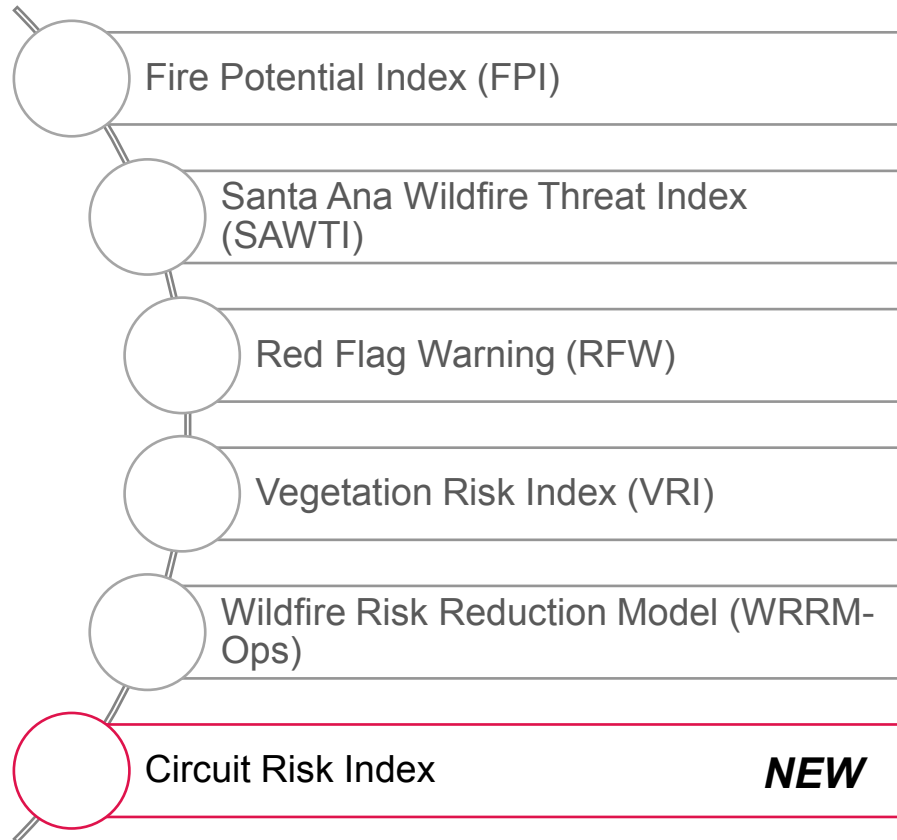
Vegetation Risk Impact (VRI)				Wind Gust		
N = N/A	L = Low	M = Medium	H = High	<= 94%	95%-98%	>= 99%

ONGOING ANALYTICS ENHANCEMENTS

Circuit Risk Index¹ (CRI)



A Sempra Energy utility®

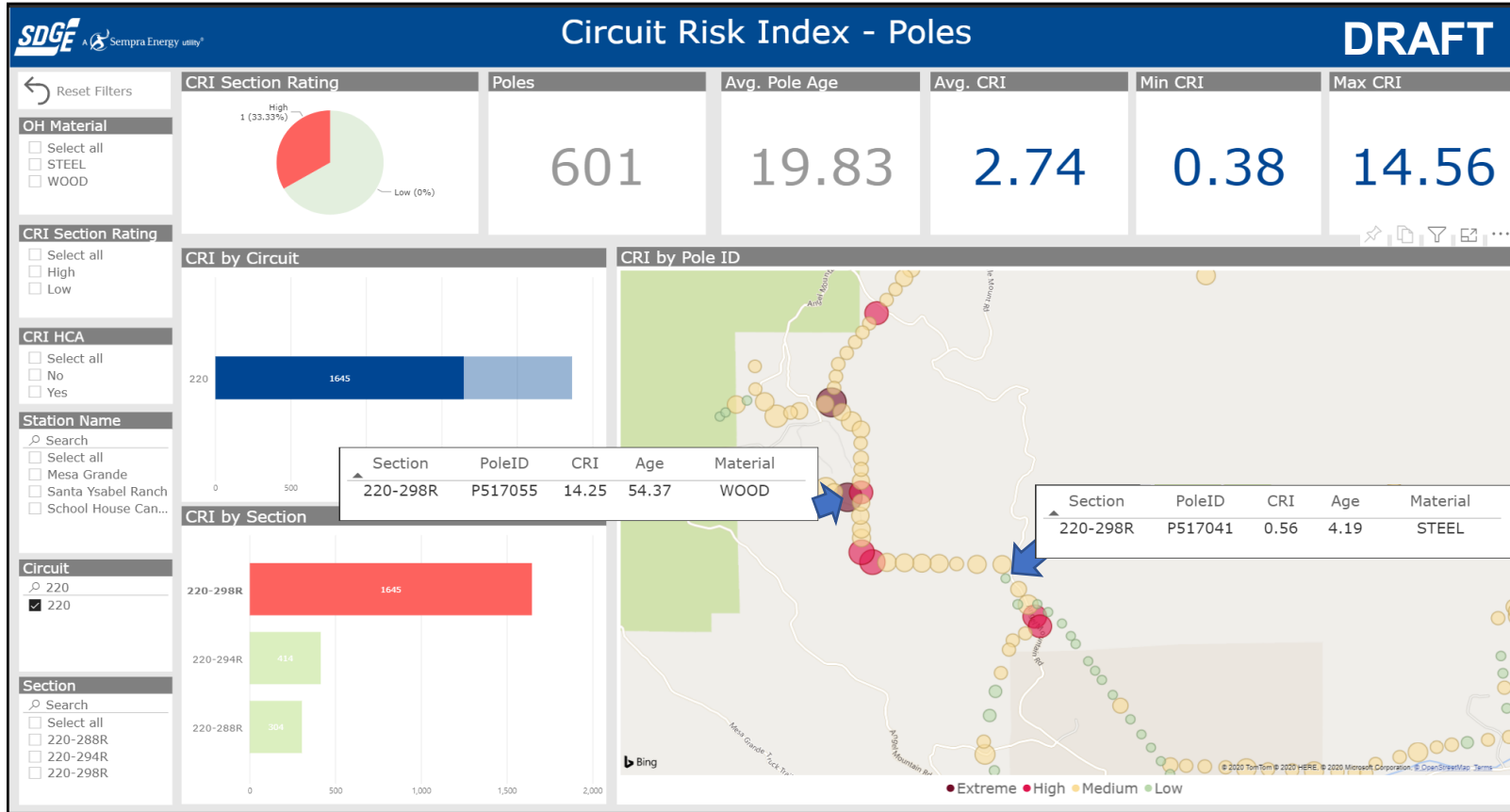


1) The Circuit Risk Index is still under development and is not part of decision-making at this stage

ONGOING ANALYTICS ENHANCEMENTS

Circuit Risk Index¹ (CRI)

Browse risk indices by pole, switch, circuit and weather station to get critical information



High CRI, Wood Pole
Represented as Large **Red** point



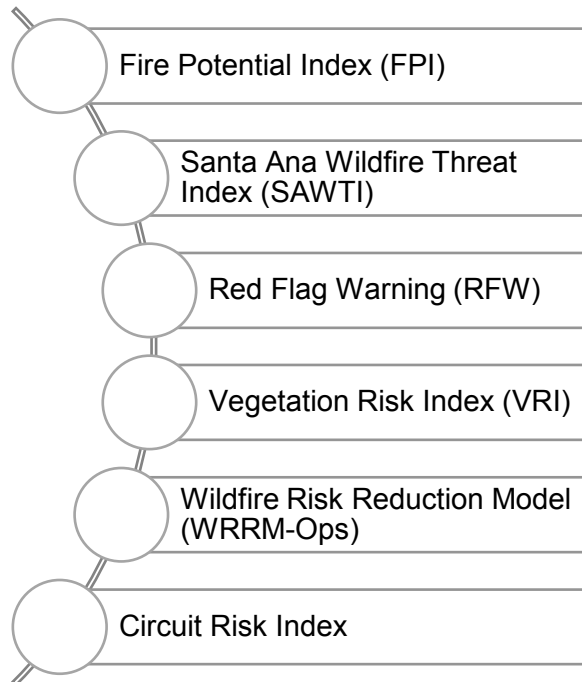
Low CRI, Steel Pole
Represented as Small **Green** point



1) The Circuit Risk Index is still under development and is not part of decision-making at this stage

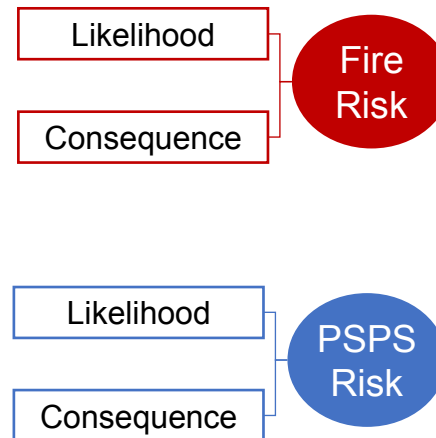
FUTURE VISION

Wildfire Risk Indices and Data Points

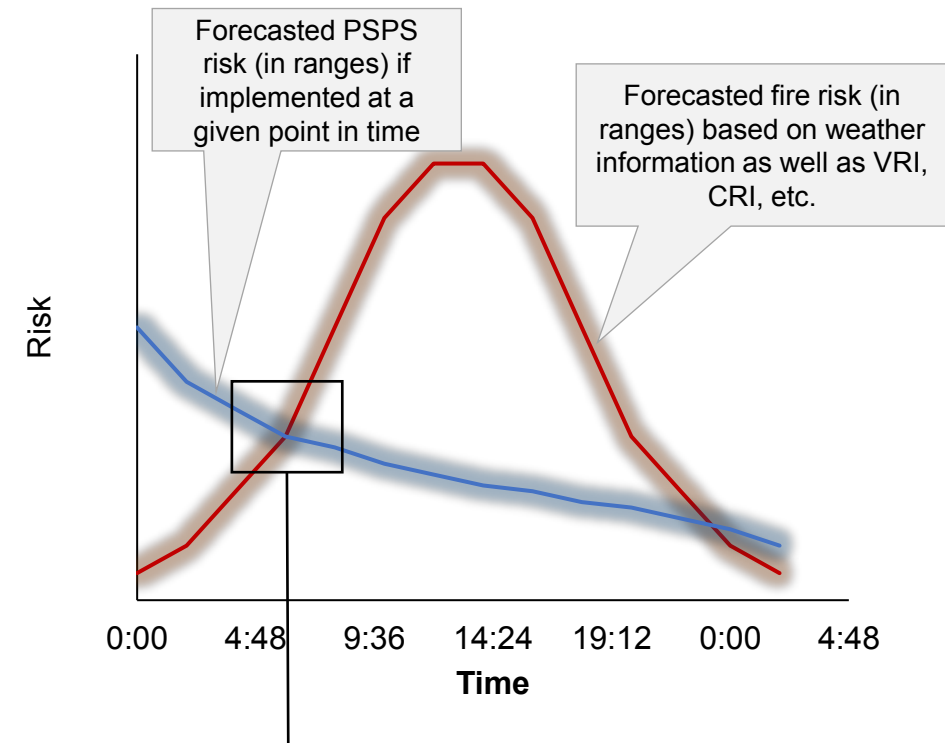


Risk Assessment

Wildfire Next Generation System (WiNGS) – Ops¹



Dynamic Forecasts of Wildfire and PSPS Risks



The region at which fire risk and PSPS risk are equal

1) WiNGS is a new decision-support tool that is at the early stages of development. The vision represented here is illustrative and conceptual at this stage.

QUESTIONS



A Sempra Energy utility

