

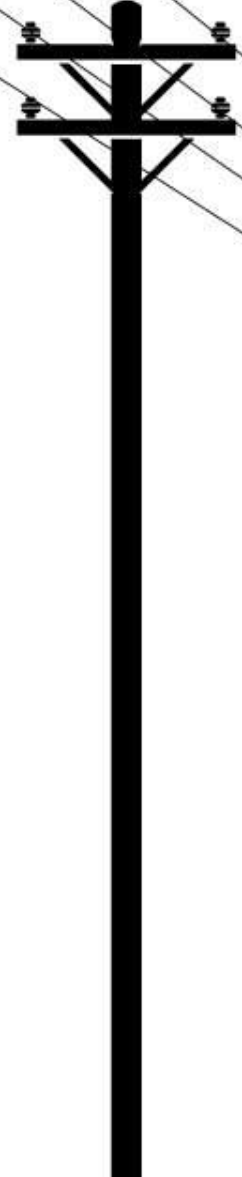


**& WILDFIRE  
SAFETY**

# **CPUC'S POLICY INNOVATION COORDINATION GROUP**

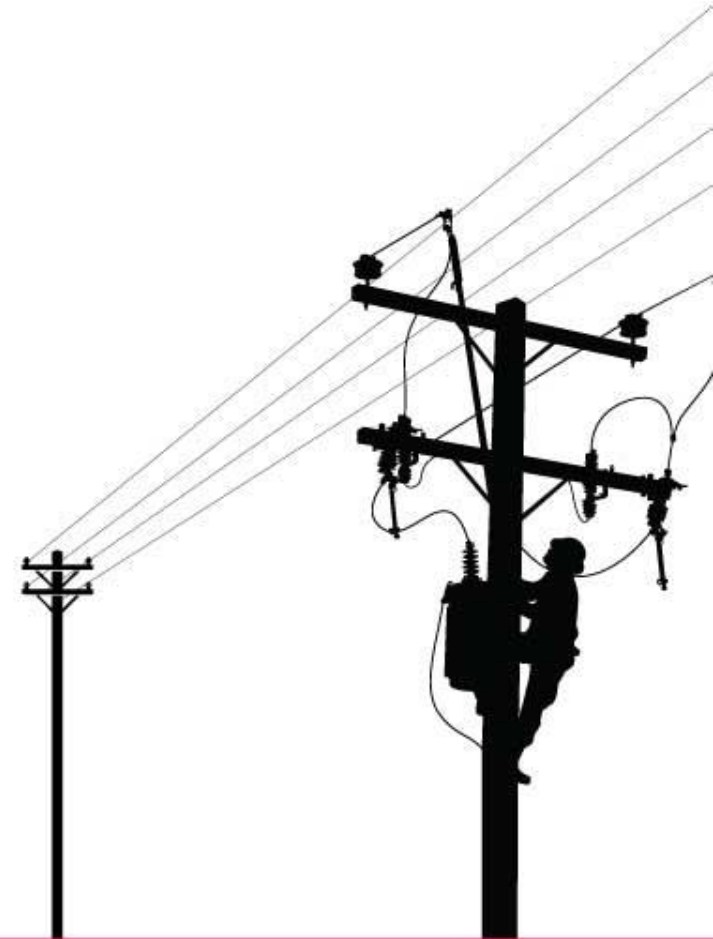
**PSPS Data Analytics**

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



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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)



## 2020<sup>1</sup> and beyond

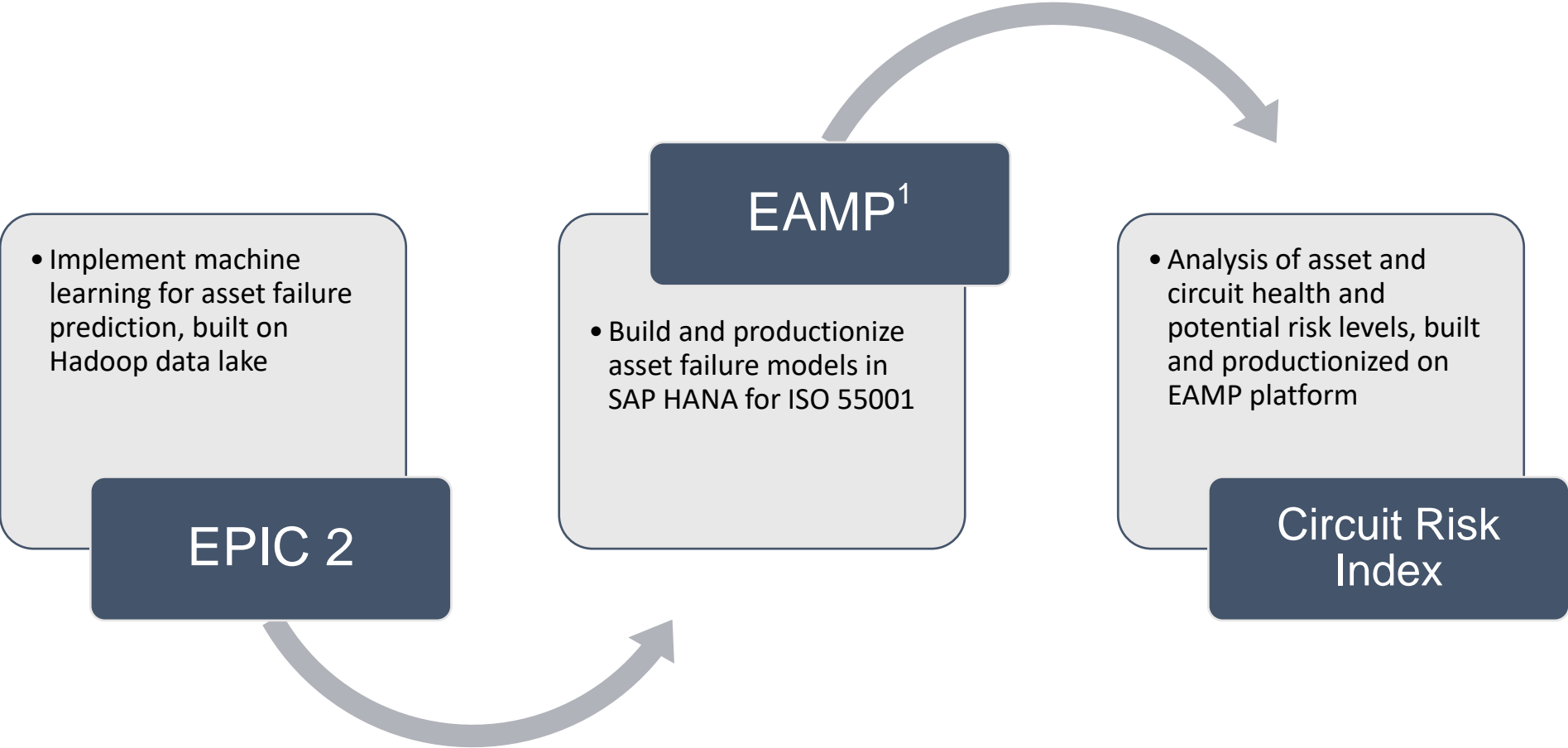
- Circuit Risk Index
- Wildfire Next Generation System Ops



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



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



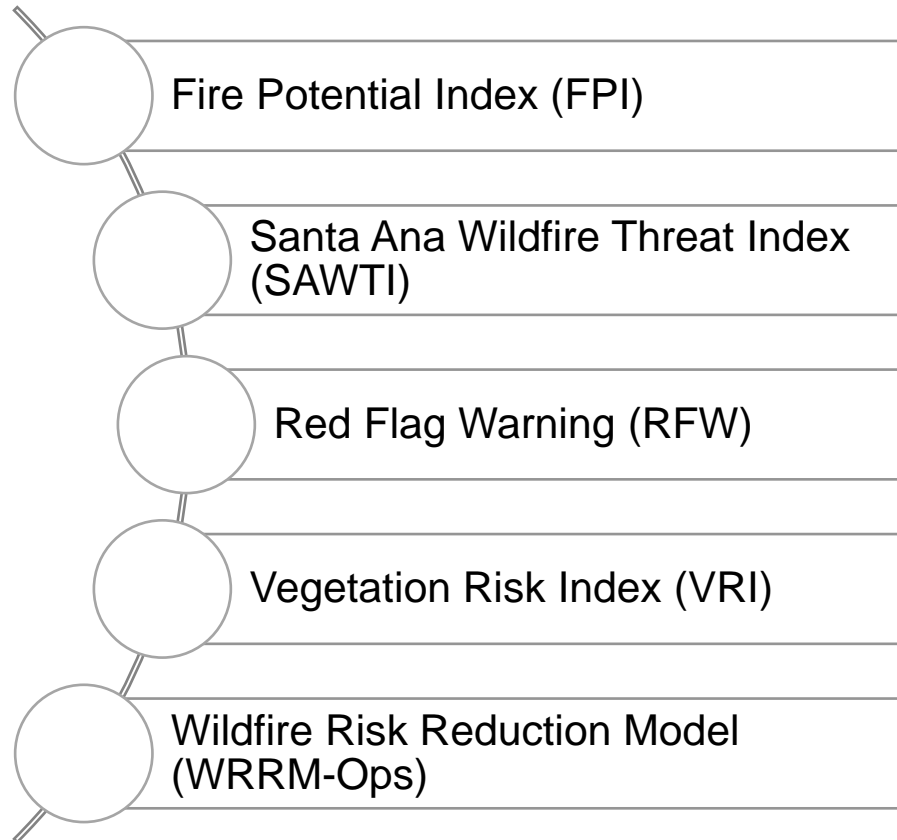
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# CURRENT STATE OF ANALYTICS



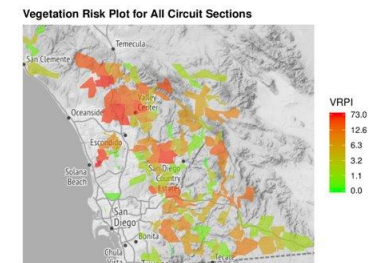
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High-Speed Weather Data



Vegetation Risk Index



WRRM-Ops



PSPS Dashboard SDG&E

Anemometer	VRI	Section	Tie Line	Sub	Dist/FPI	Cust #/#		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

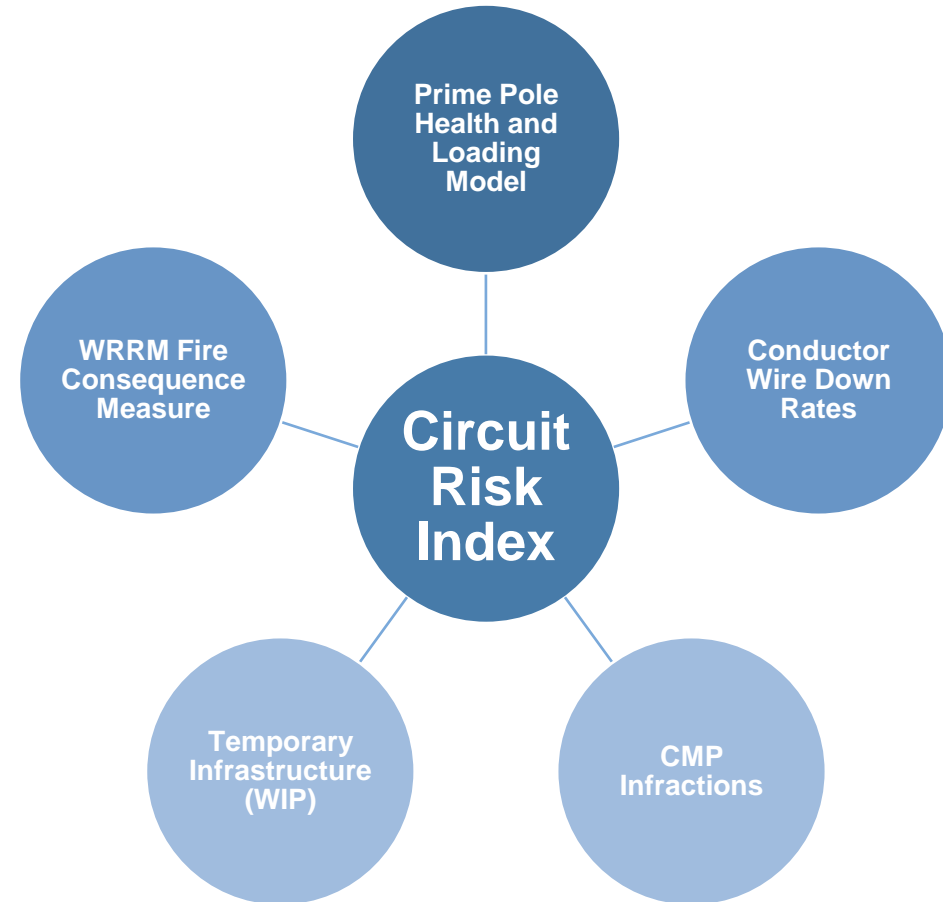
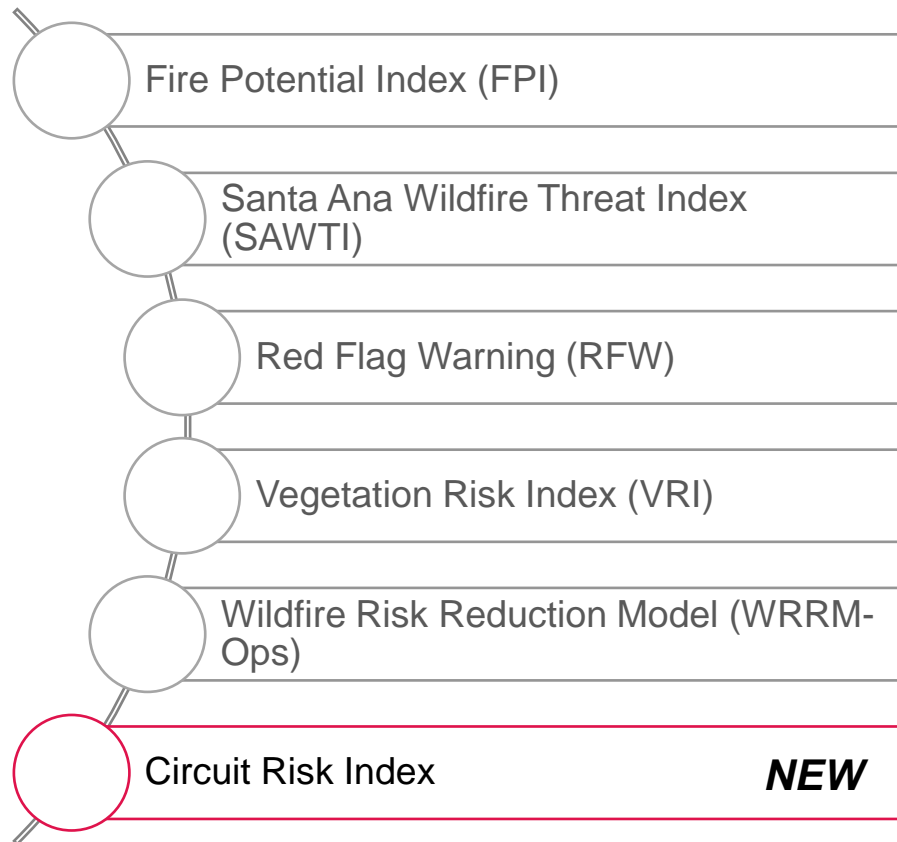
Vegetation Risk Impact (VRI)				Wind Gust		
N = N/A	L = Low	M = Medium	H = High	<= 94%	95%-98%	>= 99%

# ONGOING ANALYTICS ENHANCEMENTS

## Circuit Risk Index<sup>1</sup> (CRI)



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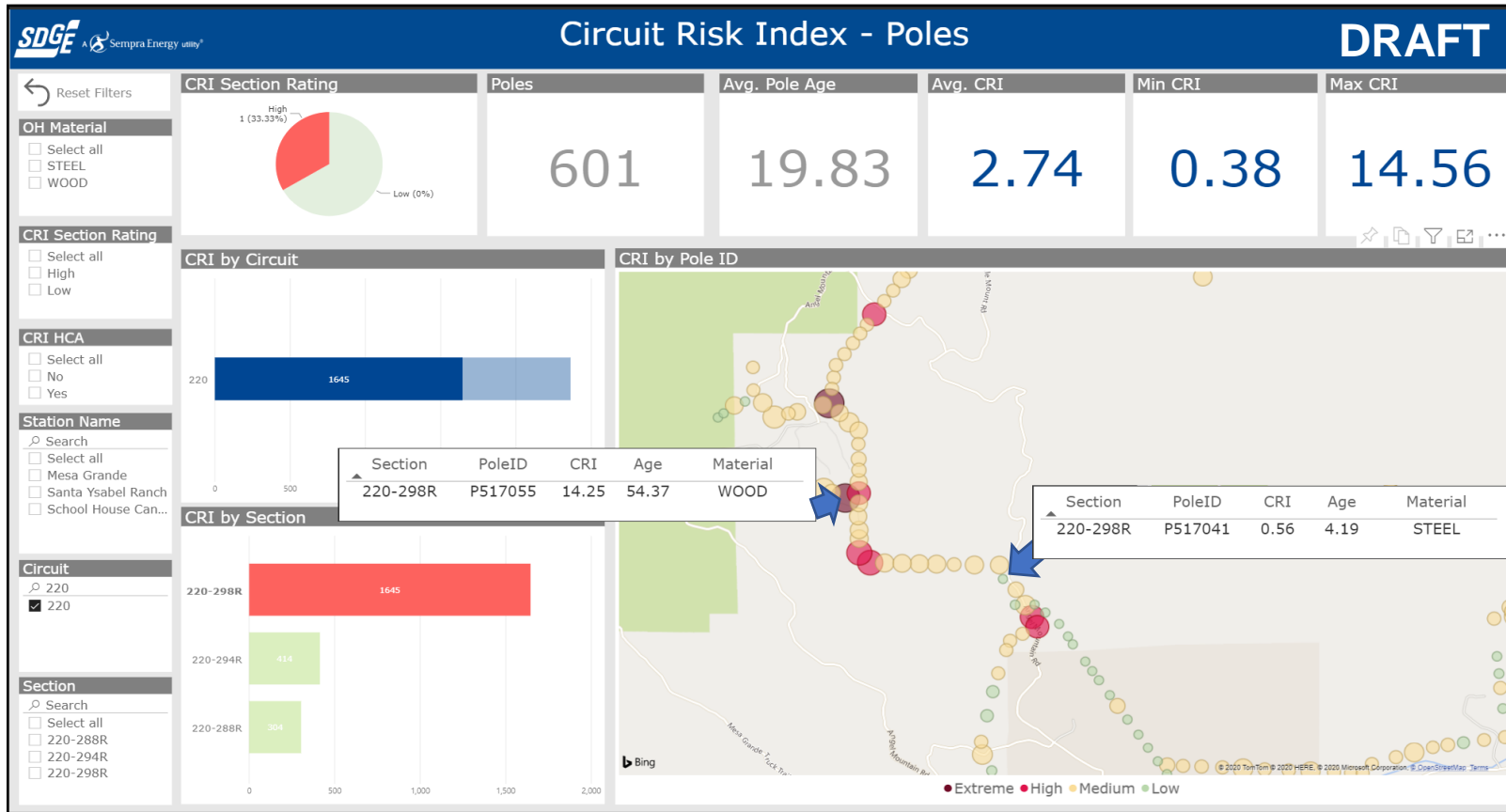
1) The Circuit Risk Index is still under development and is not part of decision-making at this stage



# ONGOING ANALYTICS ENHANCEMENTS

## Circuit Risk Index<sup>1</sup> (CRI)

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



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



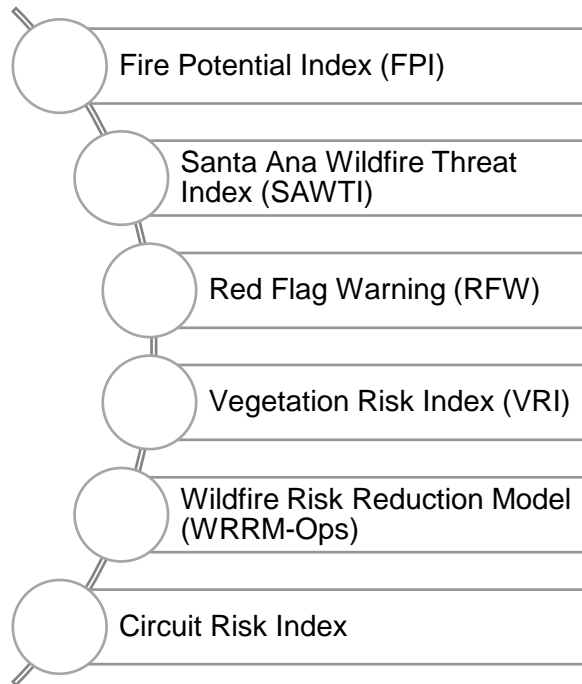
Low CRI, Steel Pole  
Represented as Small **Green** point



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

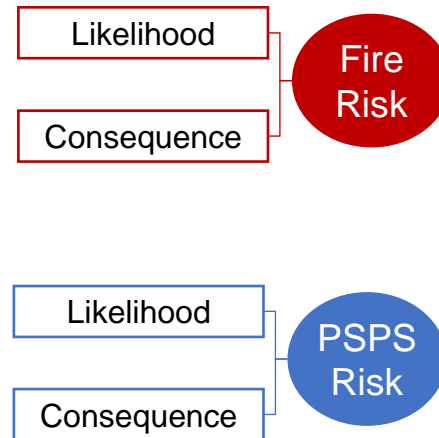
# FUTURE VISION

## Wildfire Risk Indices and Data Points

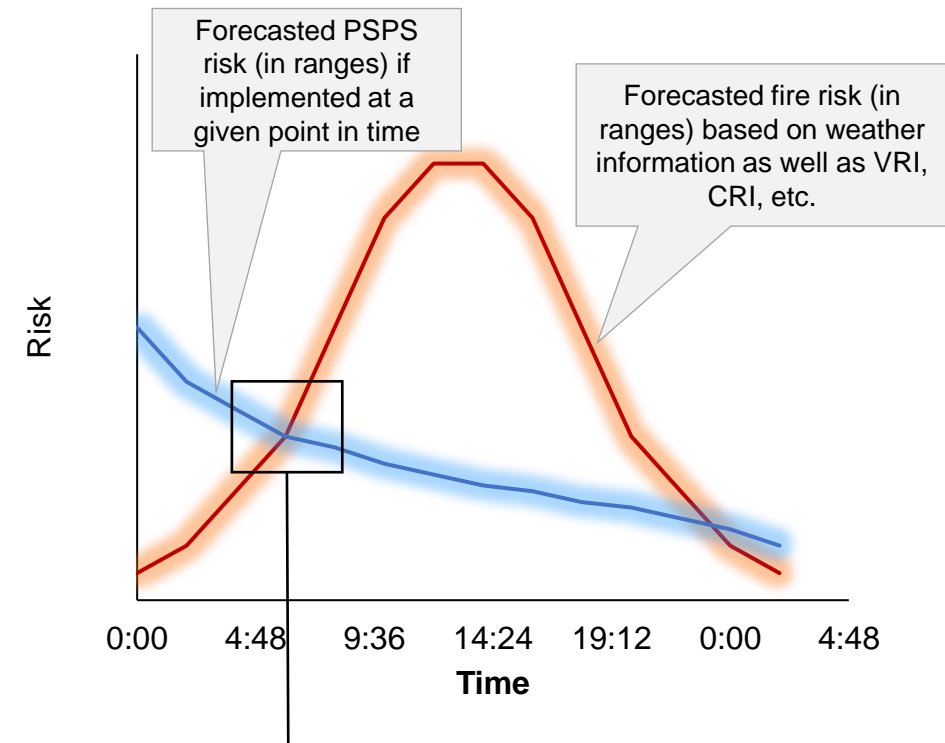


## Risk Assessment

Wildfire Next Generation System (WiNGS) – Ops<sup>1</sup>



## 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



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