

# **RISK SPEND EFFICIENCY ASSESSMENT**

**DELIVERABLE 3.3:  
LEVEL 4  
RECOMMENDATIONS**

## VERSION HISTORY

Version	Author	Date	Changes
Draft	Multiple	4/7/2022	Original draft
Updated	Multiple	4/12/2022	Address CPUC internal comments

## Approvals

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## 2. Introduction.

### 2.1. Project Background and Objective for this Deliverable

The California Public Utilities Commission (CPUC) regulates services and Investor-Owned Utilities (IOUs), protects consumers, safeguards the environment, and assures Californians' access to safe and reliable utility infrastructure and services. Within the CPUC, the Safety Policy Division (SPD) works with the Safety & Enforcement Division (SED) and other divisions to analyze, develop, recommend, and implement safety policy.

The purpose of this contract is to evaluate California electric and natural gas IOU Risk Spend Efficiency (RSE) modeling and assumptions to assess whether they maximize the effectiveness of safety investments while minimizing ratepayer impacts. Level 4 is tasked to determine the effectiveness of the use of RSE in the IOUs' safety mitigation proposals related to their General Rate Case (GRC) applications, Risk Assessment Mitigation Phase (RAMP) applications, and annual Wildfire Mitigation Plans (WMPs).

In February of 2022 we delivered a relatively comprehensive description and assessment of the current RSE approaches by the IOUs. As part of that assessment, we provided some general guidance with respect to directions forward. The intent for this deliverable is to provide a proposed set of specific recommendations for implementation by the CPUC with the support of interested parties, including the IOUs and the intervenors. Our intention is that all parties will initially agree on the big picture and potentially long-term objectives as outlined here, and that subsequent working sessions will be used to fill in the details within each area, and the timing for adoption.

### 2.2. Level 4 Recommendations

Level 4's recommendations are shown in Table 1. The first column identifies a series of workshops (working sessions) during which the specific details of the developed standards would be finalized. We anticipate that the CPUC will facilitate these workshops and be the final arbitrator of the specific approach in each area that is then standardized.

**Table 1: Level 4 Recommendations.**

Req. ID	Recommendation
MAVF 1	Individual risk events should be modeled at an appropriate level of granularity for the analysis (circuit, tranche, etc.) using probabilistic (stochastic) models and storing those results. The MAVF should then be applied as part of the consolidation process for those individual risk events.

Req. ID	Recommendation
MAVF 2	With input from the parties involved, the CPUC should adopt a standard set of parameters/formulas to monetize risk consequences, using standard values from other government agencies or industry sources where possible.
MAVF 3	With input from the parties involved, the CPUC should adopt standard metrics for electric and gas reliability, possibly adjusted for regional characteristics, and all IOUs should then use those metrics when estimating MAVF scores.
Risk Modeling 1	With input from the parties involved, and building from prior work by industry recognized sources such as the Gas Technology Institute, and Canadian Energy Regulator, and the Electric Power Research Institute, the CPUC should adopt a standard taxonomy of risks to be used by all of the IOUs for RSE modeling.
Risk Modeling 2	With input from the parties involved, the CPUC should adopt a standardized list of mitigation activities (for example, undergrounding power lines) and define a standard time horizon for the assumed effectiveness of each mitigation. All IOUs should then use this standardized list of mitigation activities and time horizons for RSE modeling.
Risk Modeling 3	With input from the parties involved, the CPUC should adopt a standard readability factor to be used for RSE calculations.
Risk Modeling 4	With input from the parties involved, the CPUC should adopt a standard discount rate to be used when discounting risk related costs and benefits of various categories for RSE modeling.
Risk Modeling 5	With input from the parties involved, the CPUC should adopt standard templates for each of the standard risks. As a minimum, these templates should include input assumptions, intermediate variables, and MAVF attribute values.
Risk Modeling 6	With input from the parties involved, the CPUC should adopt standardized bow ties and influence diagrams for the standard list of risks.
Risk Modeling 7	With input from the parties involved, the CPUC should adopt a standard cross platform nomenclature that represents the uncertainties, interrelationships and sensitivities of risks and their mitigations as stochastic libraries. While the IOUs may continue to use internally selected tools and models, the IOUs should be required to report RSE results using this nomenclature.
Risk Modeling 8	With input from the parties involved, the CPUC should adopt a standard list of risk statistics for use in RSE modeling. These statistics should maximize the use of public or pooled sources of data and standardized values from industry associations and other government agencies. All IOUs should then use these standardized statistics in their RSE modeling.
Risk Modeling 9	With input from the parties involved, the CPUC should adopt a standard risk relationship model identifying known or assumed dependencies between risk items in the standard risk taxonomy. The IOUs should then use this relationship model during RSE modeling.
Wildfire/PSPS 1	The CPUC should commission an independent parametric cost-benefit analysis of PSPS events. This study should identify relevant input parameters, equations, and criteria to be used for trigger events.
Wildfire/PSPS 2	The CPUC should work with others, including in particular the OEIS, to obtain an updated High Fire Threat District (HFTD) map to 1) increase its granularity, 2) account for fuel changes that have taken place since the map was created, and 3) account for the effects of climate change on wildfire size and consequence. An updated HFTD map should be generated using a single analytical approach across the entire state, and then used by all IOUs for RSE modeling.
Wildfire/PSPS 3	With input from the parties involved, including in particular the OEIS, the CPUC should adopt a requirement that RSE related wildfire modeling include the consequences of long-duration utility-caused wildfires, in addition to their current assessment of short-duration fires.

Req. ID	Recommendation
Wildfire/PSPS 4	With input from the parties involved, including in particular the OEIS, the CPUC should adopt a standard wildfire risk type classification, which should then be used by all IOUs for RSE modeling.
Wildfire/PSPS 5	With input from the parties involved, including in particular the OEIS, the CPUC should adopt one or more out-year fuelscapes supporting long-term assessments of risk priorities under various scenarios. All IOUs should then use these fuelscapes for RSE modeling.
RSE Process 1	IOUs shall be able to submit exception requests to the CPUC to cover circumstances that are not covered by the standards defined as part of these recommendations, and the CPUC shall have the authority to approve those exception requests.
RSE Process 2	The standards adopted herein should be periodically updated. The quantity, significance, and specifics for exception requests should be one input to the update process.