Rulemaking (R.) 20-07-013: Phase II

Workshop #2

June 29, 2022

10:00 AM - 4:00 PM

California Public Utilities Commission

Agenda Item	Time
Introductions, Updated Timeline, and Purpose & Expected Outcome	10:00 – 10:15 am
Adoption of a Cost-Benefit Approach in the RDF	10:15 – 11:15 am
Break	11:15 – 11:30 am
Valuation of Safety Attribute	11:30 am – 12:00 pm
Lunch	12:00 – 1:00 pm
Valuation of Electric Reliability	1:00 – 1:45 pm
Valuation of Gas Reliability	1:45 – 2:00 pm
Break	2:15 – 2:30 pm
Environmental & Social Justice (ESJ) Impacts	3:00 – 3:30 pm
CPUC Close	3:30– 4:00 pm

UPCOMING DATES AND MILESTONES

Phase II Remaining Timeline*

06/29: Workshop 2: Draft Staff Proposal

08/04: Staff Proposal Issued via Ruling

08/24: Opening Comments Due

08/29: Reply Comments Due

10/21: Proposed Decision Issued via Ruling

11/10: Opening Comments Due

11/16: Reply Comments Due

12/01: Final Decision and Commission voting meeting

* Dates are subject to change.

PURPOSE & EXPECTED OUTCOMES

PURPOSE AND EXPECTED OUTCOME

- SPD Staff will present an initial draft set of Phase II Staff Proposal recommendations.
- Proposed Phase II recommendations are based on the culmination of one prior Workshop and four prior TWG discussions regarding standards and revisions to the current RDF approach.
- Staff will carefully collect and consider oral feedback from parties during Workshop #2 for further consideration towards the Staff Proposal recommendations.
- Any post-workshop informal written feedback will also be considered but is neither necessary nor expected.

Cost-Benefit Approach as RDF

Staff Proposal Recommendation

Scoping Memo Issue

"Should the Commission consider revising or refining the RDF methodology for valuing services, mitigations and/or impacts (such as those related to reliability and safety)? If so, should the Commission consider: (a) defining and requiring use of a consistent value of statistical life (VSL); (b) whether the dollar value of attributes should be explicitly addressed; and (c) the valuation of the costs and impacts of public safety power shutoff (PSPS) events as both risks and risk mitigations? Discussion and consideration of PSPS related issues in this proceeding should avoid duplicating work on PSPS issues being addressed in other proceedings or as undertaken by the Office of Energy Infrastructure Safety (Energy Safety) in the context of its review of utility Wildfire Mitigation Plans."

Drawbacks of the Current MAVF Approach

- The current RDF is constructed according to a multi-attribute value function (MAVF), which attempts to combine multiple attributes into a single metric to quantify the consequences of the risk event (CoRE).
- Disadvantages that have emerged after adoption:
  - Limited Understandability:
    - Components: weights, ranges, scales
    - Metrics: risk score, mitigation risk reduction (MRR) score, and risk spend efficiency (RSE) value
  - Lack of Transparency
  - Limited Usability

Discussion of Level 4 Recommendations

- 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."
- General consensus to pursue a cost-benefit approach based on informal written comments provided to SPD on May 10, 2022.
- On May 20, 2022, Staff facilitated a TWG (TWG #2) that centered on developing details for the MAVF 2 recommendation.

Stated Opposition to Cost-Benefit Approach

1. Misunderstanding about the role of weights and ranges in current MAVF structure.
2. Monetization of additional/future attributes.
3. Loss of Transparency.
4. Discomfort with placing a dollar value on human life.
5. Trade-offs would no longer be explicit.
6. Difficulty in ascertaining monetary value for all attributes.
7. Monetization restricts flexibility.

Staff Recommendation

- Staff recommends that IOUs implement the dollar valuation of attributes in a cost-benefit approach going forward, thereby replacing the current MAVF scheme and revising the RDF
- The shift to a cost-benefit approach that places a monetary value on attributes is, in many ways, already being done by TURN.
  - TURN determined the implied VSL in PG&E's MAVF as a check on reasonableness and suggested that the monetary value of a loss in electric reliability be compared to published VOLL estimates as another check on reasonableness.
  - Moreover, TURN derived a cost-benefit ratio from the MAVF RSE data in its Opening Comments on the 2022 Wildfire Mitigation Plans.

Staff Recommendation (cont.)

- Staff expects that the monetization of attributes in the RDF will create a greater degree of **understandability and usefulness** in the decision-making process for the following reasons:
  1. The monetized trade-off value for each attribute replaces the current weight and range for each attribute in the MAVF approach, thereby simplifying the RDF.
  2. The move away from explicit weighting would prevent regulators, practitioners, and other stakeholders from being constrained by the 40 percent minimum weighting of the Safety attribute. This 40 percent minimum weighting represents a misunderstanding of weights as a reflection of "general importance" rather than relative importance based on attribute ranges.
  3. The representation of risk and risk reduction in dollars and the cost-benefit ratio expressed by the dollar reduction in risk versus dollars expended is intuitively more understandable (and potentially more useful) than representation of risk found in the current MAVF scheme.
  4. Expressing risk in dollars ultimately eliminates the need for a standard readability factor for MRR and the cost-benefit value.

Staff Recommendation (cont.)

- Staff does not expect a loss of transparency.
  - All inputs are to be clear and explicit and expressed in natural units.
  - The only meaningful difference should be the numerical representation of combined risk attribute consequences.
- Staff will allow some flexibility in the valuation of Attributes.
  - Staff intends to allow each IOU to use an attribute standard and value that makes the most sense for the IOU as long as it can offer a detailed explanation.
  - The process for authorizing an exception will likely be discussed in Phase III of this proceeding.
- Staff expects that continuous discussions with the TWG and new studies, publications, and methodologies, will continue to provide a range of up-to-date and acceptable dollar values to represent each attribute.

Staff Recommendation (cont.)

- The Phase II Recommendations do not represent the end of a process of refinement.
- Immediate next steps:
  - Risk Attitude still needs to be addressed.
  - The formal process for authorizing an exception will likely be discussed in Phase III of this proceeding.
- Staff will continue to facilitate TWG sessions into Phase III of this proceeding that will continue to improve upon the cost-benefit approach and valuations determined for each attribute.

Break

11:15 – 11:30 am

Valuation of the Safety Attribute

Staff Proposal Recommendation

Background: Valuation of Safety Attribute

- Monetization of safety consequences addresses Scoping Memo Issue #2.
- One key issue with using the current MAVF is that it has produced unreasonable safety consequence implied values in RAMP filings:
  - VSL = $100 M
  - High implied VSL can make certain mitigations appear more favorable if they reduce the inflated value of the safety attribute.
- Level 4's MAVF 2 Recommendation states, "With input from the parties involved, the CPUC should adopt a standard set of parameters/formulas to monetize risk consequences..."

Discussion: Valuation of Safety Attribute

- PG&E supports adopting a range of VSLs and stated that comparison to dollars was occurring already.
- PG&E emphasized should a VSL be adopted it should be reasonable and transparent as to how it was derived.
- SCE posted consideration for valuing serious injuries along a gradient in the VSL and how to model values without going back to a MAVF.

Staff Recommendation: Valuation of Safety Attribute

- Staff recommends monetizing safety consequences using Value of Statistical Life (VSL).
- Staff recommends using DOT guidance on VSL which is $11.8 million (2021).
- DOT has an equation which computes the present day VSL value using changes in inflation and income.
- $$VSL_T = VSL_0 * \left(\frac{P_T}{P_0}\right) * \left(\frac{I_T}{I_0}\right)^{\varepsilon} - Equation\ 1$$

  where;

  0 = Original Base Year

  T = Current Base Year

  P_T = Price Index in Year T

  I_T = Real Incomes in Year T

  ε = Income Elasticity of VSL

Staff Recommendation: Valuation of Safety Attribute

- Staff recommends using ***Price Index data*** and the ***Median Usual Weekly Earnings*** from the U.S. Bureau of Labor Statistics:
  - https://data.bls.gov/timeseries/CUUR0000SA0
  - https://data.bls.gov/timeseries/LEU0252881600

$$VSL_T = VSL_0 * \left(\frac{P_T}{P_0}\right) * \left(\frac{I_T}{I_0}\right)^{\varepsilon} - Equation\ 1$$

where:

0 = Original Base Year

T = Current Base Year

P_T = Price Index in Year T

I_T = Real Incomes in Year T

ε = Income Elasticity of VSL

- Based on DOT guidance staff recommends using an income elasticity of 1.0.
- Staff recommends IOUs use a range of VSL developed by the US Department of Health and Human Services (HHS).
- The high and low estimates derived from HHS for the base year 2021 are $5.5 and $17.9 million.

Staff Recommendation: Valuation of Safety Attribute

- Staff recommends using the DOT guidance on how to apply VSL to injuries based on the severity level (see Table 1 below):

Table 1: Relative Disutility Factors by Injury Severity Level (MAIS)

MAIS Level	Severity	Fraction of VSL
MAIS 1	Minor	0.003
MAIS 2	Moderate	0.047
MAIS 3	Serious	0.105
MAIS 4	Severe	0.266
MAIS 5	Critical	0.593
MAIS 6	Unsurvivable	1.000

- Lastly, staff selected DOT as a VSL source because the agency provides an equation to calculate changes in inflation and income.
- HHS was used because they provide high and low estimates for VSL.

Lunch

12:00 – 1:00 pm

Valuation of Electric Reliability

Staff Proposal Recommendation

Scoping Memo Issue

Should the Commission consider revising or refining the RDF methodology for valuing services, mitigations and/or impacts (such as those related to reliability or safety)? If so, should the Commission consider: (a)defining and requiring use of a consistent value of statistical life (VSL); (b)whether the dollar value of attributes should be explicitly addressed…

So, should we revise or refine the valuation of reliability, and should it be expressed in dollars?

Reasons to Revise Electric Reliability Valuation

- The Natural Units of CMI (or SAIDI) don't have equal value for different customer classes and have different impacts depending on outage duration
  - Examples are Residential vs. Commercial and Industrial Customers
  - Longer Outages have disproportionate consequences
- Values expressed in Risk Scores and RSE numbers are difficult to interpret
  - RSE gives a relative ranking but not the effectiveness of a given mitigation

Staff Recommendation: Electric Reliability

- The LBNL Interruption Cost Estimator calculator provides:
  - Valuation in dollars to support cost-benefit analysis
  - Accounts for three customer categories
  - Accounts for impacts of different outage durations in most cases
- While not perfect, the ICE model is a "bronze" solution available now
- Adoption of the ICE sets the groundwork for better models as they develop

Valuation of Gas Reliability

Staff Proposal Recommendation

Reasons to Revise Gas Reliability Valuation

As for electric reliability:

- Values expressed in Risk Scores and RSE numbers are difficult to interpret
  - RSE gives a relative ranking but not the effectiveness of a given mitigation

Staff Recommendation: Gas Reliability

- Gas Reliability should be expressed in dollars for consistency with other attributes
- But no convenient model like ICE has been found
- Gas reliability has been a small component of RAMP scores to date
- Staff recommends use of the implied dollar value of gas reliability from the IOU's most recent RAMP as a placeholder until a more accurate model is available.

Break

2:15 – 2:30 pm

Environmental and Social Justice (ESJ) Impacts

Staff Proposal Recommendation

Scoping Memo Issue

Issue (7.): "Should the Commission consider impacts on environmental and social justice communities, including the extent to which action in this proceeding impacts achievement of any of the nine goals of the Commission's Environmental and Social Justice Action Plan?"

Proposal from the CPUC Action Plan

The plan would "require IOU's to overlay planned infrastructure mitigations on the CalEnviroScreen map to identify what portions of the mitigations would occur within disadvantaged communities, when geographic locations of proposed mitigations are known. Include the DAC proportion percentage of the mitigation in the RAMP narrative and what risk reduction is estimated for the DAC portion." (p. 43)

Link to Source: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf

Informal Feedback and Discussion: ESJ Impacts

Following the discussion at the June 16th TWG and review of the ensuing informal comments staff believe that there are too many outstanding questions and unexplored complexities to pursue a mandatory GIS overlay of mitigation investments and ESJ communities. Further exploration of this topic in Phase III is necessary.

Staff Recommendation: ESJ Impacts

Instead of the new overlay requirement, staff supports PG&E's use of CalEnviro Screen and the broader Disadvantaged Vulnerability Communities definition from D.20-08-046 for use in an informational pilot to inform PG&E's next RAMP filing.