

Southern California Edison

WSD-011 – Resolution implementing the requirements of Public Utilities Code Sections 8389(d)(1), (2) and (4) related to catastrophic wildfire caused by electrical corporations subject to the Commission’s regulatory authority

DATA REQUEST SET W S D - S C E - 0 0 5

To: WSD

Prepared by: Berta Sandberg

Job Title: Senior Advisor

Received Date: 3/16/2021

Response Date: 3/19/2021

Question 001:

How is the RSE value for covered conductor installation calculated? Provide a breakdown on how the reduction in risk for system hardening is determined, and how the RSE value is determined based on that risk reduction value. Include all associated work papers and inputs into the final value.

Response to Question 001:

The RSE value for covered conductor is calculated in the same manner as the RSE calculations for all other mitigations. As stated in WMP pages 63-64 the RSE is calculated as follows:

1. Use historical counts to forecast baseline (in the absence of mitigations) wire-down, outage, and CPUC ignition levels.
2. For each program, obtain a. cost forecast, b. mitigation effectiveness – a percentage between 0 and 100% denoting the effectiveness of reducing risk driver frequency or consequences of events, c. prospective units to be installed/performed, and d. years of useful life (mean time to failure)
3. For each year, calibrate the WRRM to the forecast baseline wire-down, outage, and CPUC ignition levels to convert probabilities to frequencies.
4. Where available, use location data, mitigation effectiveness, and the WRRM to estimate risk buydown associated with the program. a. If location data are not available, or if the scope is not determined yet, use the risk buydown curve from the Wildfire Risk Reduction Model. Use the units to be installed/performed in that year to determine how far down the risk buydown curve the program may mitigate risk. b. Apply the mitigation effectiveness to the particular asset’s risk drivers or consequences and compare the resulting risk with the baseline risk. The difference is the risk reduction.
5. Calculate the net present value (NPV) of the risk reduction applying the years of useful life as the time horizon.
6. Calculate the RSE by dividing the NPV of risk by the cost forecast.

In particular, for covered conductor, the risk reduction is determined by calculating the risk without the covered conductor at the circuit segment minus the risk with the covered conductor as part of

the calculation of the NPV.

Attached you will find code that calculates the RSE values (WSD_SCE_005_Q1_cc_rse.R) as well as inputs necessary for the calculation: The filename is

CONFIDENTIAL_WSD_SCE_005_Q1_work_inputs_and_output.xlsx.

- Excel sheet cc_mitigation_effectiveness has consequence and Subdriver mitigation effectiveness. The risk reduction calculation incorporates the mitigation effectiveness subdrivers that are captured by our risk model inventory.
- Excel sheet cc_units_spend contains nits deployed and cost forecast for 2021-2022, as well as useful life.
- Excel sheet seg_consequences has fire and psp consequences scores for each segment.
- Excel sheet segment_foi_by_subdriver contains Expected ignition counts by subdriver for each segment, already converted from WRRM probabilities to frequencies and calibrated to historical ignition baseline.
- Excel sheet cc_compl_segs_20210112 gives a List of locations where CC has been installed.

CONFIDENTIAL

The Attachment(s) Are Marked Confidential In Accordance With D. 16-08-024 and D. 17-09-023. Basis for Confidentiality In Accompanying Confidentiality Declaration.

Public Disclosure Restricted.

