

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 Cal Advocates - SCE - 2021 WMP - 14

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Response Date: 6/10/2021

Question 004:

On page 577 of the Revised 2021 WMP Update (redlined), SCE states that weather stations combined with sectionalizing devices have an RSE of 598.

a) When calculating the RSE for the above mitigations, what historical counts are used as a forecast baseline per the process SCE describes on page 66 of its revised 2021 WMP Update (redlined)?

b) What is the mitigation effectiveness of the weather station and sectionalizing devices mitigation activities?

c) Describe how the mitigation effectiveness of weather station and sectionalizing devices is determined.

d) Describe all other factors or metrics used in the calculation of RSE for weather station and sectionalizing devices mitigation activities.

Response to Question 004:

a) Weather Stations and Sectionalizing Devices can mitigate PSPS risk. To calculate the baseline PSPS risk, SCE uses the risk bowtie framework to calculate the relative risk of PSPS impacts. On the left hand of the bow tie is the probability of de-energization which is based on a 10-year back casting of historical wind and weather conditions to estimate the annual frequency and duration of de-energization events using the current PSPS de-energization protocols. On the right side of the bowtie, SCE estimates the safety, reliability, and financial consequences to customers due to a PSPS de-energization. The PSPS risk calculated by the risk bowtie approach serves as the basis for risk reductions and is therefore used in RSE calculations.

b) Both programs have a 44.65% mitigation effectiveness on all components (safety, reliability, and financial) of PSPS MARS consequence.

c) In 2020, SCE’s sectionalizing efforts helped avoid over 203,409 customer outages, which represents an estimated 47% decrease from the number of outages the impacted circuits would have otherwise experienced. This was calculated by comparing the total customer count of circuits de-energized with the actual count of customers de-energized, yielding the customers that remained energized through sectionalization during a de-energization activities.

SCE uses live weather station data in an overwhelming majority of its PSPS de-energization decisions. The situational awareness of conditions across a particular circuit, which these weather stations provide, is a crucial enabler in allowing SCE to utilize sectionalizing devices and keep portions of a circuit energized, when appropriate. SCE ascribed a 95% mitigation effectiveness value to our network of weather stations. SCE may utilize live field observations (LFO) to gather information about circuit conditions in rare cases where weather stations are not the primary decision drivers in a de-energization decision. For mitigations where LFO instead of weather station data are used, SCE assigned a mitigation effectiveness of 5%.

The sectionalizing devices in conjunction with the weather stations will allow SCE to perform PPS in between sectionalizing devices to reduce PPS impacts, therefore the combined mitigation effectiveness for the two is $47\% * 95\% = 44.65\%$.

- d) In addition to utilizing the baseline PPS risks and applying the mitigation effectiveness percentages, the useful life of each mitigation is also considered to calculate the net present value (NPV) of the risk reduction. The NPV of risk reduction is divided by the cost forecast to arrive at the RSE for each mitigation. The useful lives for weather stations and sectionalizing devices are 20 years, based on an estimate from SMEs, taking into account operational considerations, vendor input, and authorized service lives.