



# RESEARCH BRIEF SERIES MITIGATION MATTERS

## AWARD RECIPIENTS

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**AWARD AMOUNT:**  
\$2,500

*FEMA defines mitigation as the effort to reduce loss of life and property by lessening the impact of disasters. Effective mitigation requires that we all understand local risks and invest in long-term planning to reduce risks and enhance community well-being.*

## BEHAVIOR ANALYSIS OF SOCIALLY VULNERABLE HOUSEHOLDS RESPONDING TO PLANNED POWER SHUTOFFS

### SUMMARY

Since October 9, 2019—the day that PG&E shut down around 25,000 miles of power lines—planned power shutoffs have been introduced as a new normal to prevent wildfire risk on windy days. Unsurprisingly, this issue remains controversial, especially considering that planned power shutoffs create disproportionate difficulties for socially vulnerable populations.

This study aimed at understanding the behavior of people faced with planned power shutoffs. An online survey was designed to explore how socially vulnerable populations behave differently during the shutoffs in terms of (a) perceived risk and worry about conducting daily life during the shutoffs, (b) individual attitudes about shutoffs, (c) what emergency items people found useful during the shutoffs, and (d) the monetary value of direct and indirect damages caused by the shutoffs.

The survey yielded 429 responses, nearly 21% of which came from individuals identified as socially vulnerable. Survey results indicated that socially vulnerable respondents had higher levels of perceived risk than those who weren't socially vulnerable. Results also revealed statistically significant differences in the attitudes of socially vulnerable participants towards utility companies, as well as about the need for backup generators and losses caused by power shutoffs, when compared to other groups. These findings suggest that targeted interventions for socially vulnerable populations are needed to enhance their ability to manage planned power shutoffs.



### KEY FINDINGS

- The greatest concern reported by socially vulnerable respondents was that food would spoil because of a power outage (mean score of 4.04 on five-point scale). Alternately, people outside the socially vulnerable group considered access to the internet and Wi-Fi to be their highest concern during a shutoff (mean score of 3.66).
- More respondents in the socially vulnerable group agreed with the statement that utility companies do their best to protect our community from wildfires (mean score of 3.30 compared to 2.97 for other respondents).

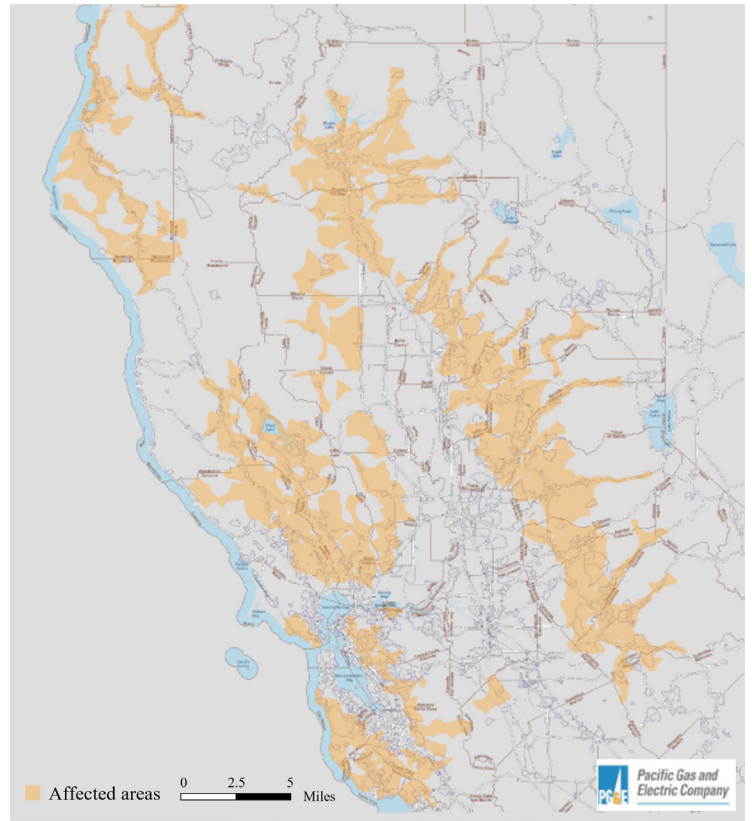
- Sixty percent of socially vulnerable respondents attributed direct losses of more than \$100 to the shutoffs. In terms of the indirect losses from psychological stress or the lack of social activities, the range of \$100 to \$499 was most frequently chosen by the socially vulnerable groups.

## POLICY IMPLICATIONS

- Research findings suggest that some socially vulnerable groups perceive the power shutoffs as a matter of survival rather than inconvenience. An in-depth understanding of the basic survival needs of vulnerable groups should be considered in mitigation strategies to support resilience to power shutoffs.
- Since socially vulnerable groups perceive themselves as susceptible to external environmental changes, they could consider the risk associated with power shutoffs as their responsibility because they are vulnerable. This can lead to self-depreciation and a sense of hopelessness that makes them less able to protect themselves and advocate for their rights, which in turn makes them even more vulnerable. Therefore, it is imperative to make every effort to stop this cycle.

## STAKEHOLDERS

Stakeholders who might be interested in this research include federal, state, and local government officials, utility company representatives, responsible for planned power shutoffs, and community groups who assist socially and medically vulnerable people with daily activities.



*A map of potential areas that could be affected by public safety power shutoffs. Image Credit: Pacific Gas and Electric Company (PG&E), 2019.*

Full report: Ham, Y. & Lee, S. (2022). Behavior Analysis of Socially Vulnerable Households Responding to Planned Power Shutoffs. Natural Hazards Center Mitigation Matters Grant Report Series, 9. Boulder, CO: Natural Hazards Center, University of Colorado Boulder. Available at: <https://hazards.colorado.edu/mitigation-matters-report/behavior-analysis-of-socially-vulnerable-households-responding-to-planned-power-shutoffs>



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