

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigations Plans Discovery 2023-2025
Data Response**

PG&E Data Request No.:	CalAdvocates_054-Q003
PG&E File Name:	WMP-Discovery2023-2025_DR_CalAdvocates_054-Q003
Request Date:	October 29, 2024
Requester DR No.:	CalAdvocates-PGE-2025WMP-17
Requesting Party:	Public Advocates Office
Requester:	Tyler Holzschuh
Date Sent:	November 13, 2024

QUESTION 003

- a) Has PG&E done any research into thyristor crowbars¹ for wildfire mitigation?²
- b) If yes, please provide a brief description of the research PG&E has done, including at least the minimum following information:

Research Study Name	Description of Research	Objectives	Results	Start Date	End Date

¹ A thyristor crowbar is a semiconductor-based device that quickly grounds electrical power lines.

² See, e.g., How to Design Crowbar Protection in High-power Applications, Littelfuse, Inc. <https://www.littelfuse.com/media?resourcetype=white-papers&itemid=600710a3-2802-4923-b1350d69800e9001&filename=wp-designing-crowbar-protection>.

- c) Has PG&E evaluated the potential use of thyristor crowbars in PG&E's system for wildfire mitigation purposes?
- d) If the answer to part (c) is yes, please provide a brief description of all potential use case(s) PG&E has evaluated for thyristor crowbars.
- e) If the answer to part (c) is yes, state the time frame during which this evaluation took place.
- f) If the answer to part (c) is yes, list all benefits that PG&E has identified regarding the use of thyristor crowbars in PG&E's system.
- g) If the answer to part (c) is yes, list all downsides that PG&E has identified regarding the use of thyristor crowbars in PG&E's system.
- h) If the answer to part (c) is yes, state the estimated cost (may be a range) regarding the use of thyristor crowbars in PG&E's system.
- i) Please provide all research documents and reports that PG&E has written, commissioned, or funded on this topic.
- j) Does PG&E plan to perform evaluation in the future regarding the use of thyristor crowbars in PG&E's system for wildfire mitigation purposes? State approximately when, if yes.

ANSWER 003

- a) No, we have not done research into thyristor crowbars for wildfire mitigation.
- b) Not applicable, please see the response to subpart (a) above.
- c) No, we have not evaluated the potential use of thyristor crowbars in our system for wildfire mitigation purposes.
- d) Not applicable, please see the response to subpart (c) above.
- e) Not applicable, please see the response to subpart (c) above.
- f) Not applicable, please see the response to subpart (c) above.
- g) Not applicable, please see the response to subpart (c) above.
- h) Not applicable, please see the response to subpart (c) above.
- i) Not applicable, please see the response to subpart (c) above.
- j) No, we do not plan to perform evaluation in the future regarding the use of thyristor crowbars in our system for wildfire mitigation purposes.