

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

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

**QUESTION 003**

- a) Has PG&E done any research into thyristor crowbars<sup>1</sup> for wildfire mitigation?<sup>2</sup>
- 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

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

<sup>2</sup> 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.