

**COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY ON  
DECEMBER 5, 2022 WORKSHOP ON ENVISTA FORENSIC'S  
FINAL ROOT CAUSE ANALYSES REPORT**

Dated: December 16, 2022

At the request of the California Public Utilities Commission (Commission or CPUC) staff, Pacific Gas and Electric Company (PG&E) offers the following comments on the December 5, 2022 workshop on the Final Root Cause Analyses Report from Envista Forensics, Inc. (Envista). We greatly appreciate the engagement in this workshop, which included over 50 participants as well as the Commission President and all four Commissioners.

As we discussed at the workshop and in our comments on the final Envista report, we have undertaken significant fire mitigation efforts since the 2017 and 2018 fire seasons and have substantially reduced the wildfire risk in our service territory. Additionally, we are continually refining our existing programs and creating new programs to combat the increasing climate-driven fire risk throughout California. We are firmly committed to our stand that catastrophic wildfires shall stop. To this end, we have implemented all of the applicable recommendations in the Envista report or explained how our efforts over the intervening years have rendered them no longer necessary or appropriate at this stage. In particular, our comments on the final report provide detailed responses to 13 of the 19 recommendations and clarify that the remaining six recommendations either required no follow up or were not directed at PG&E.<sup>1</sup>

Despite our progress, we understand we must continue to work to drive down our wildfire risk. Therefore, at the request of Commission staff, we developed a portfolio of proposed corrective actions, and accompanying proposed funding, which are identified in the table below. These proposed corrective actions incorporate items identified by Commission staff, actions proposed in our comments on the final Envista report, and ideas that emanated from the public workshop based on question from the Commissioners and Commission President.. We offer the following proposals for the Commission's consideration in developing a resolution setting out a budget and specific corrective actions, pursuant to Decision (D.) 20-05-019. As can be seen from our proposals, we believe the most beneficial way to spend the money allocated by

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<sup>1</sup> Comments of PG&E on Envista Final Root Cause Analyses Report, pp. 2-17.

D.20-05-019 is by dedicating a significant portion of these funds to improving and hardening our electric facilities.

<b>Responsible Party</b>	<b>Corrective Action</b>	<b>Considerations</b>	<b>Proposed Spend</b>
CPUC	Increase funding and scope of System Enhancement Initiative 20 (SEI-20) to evaluate PG&E three-wire infrastructure	<ul style="list-style-type: none"> <li>• Include identification of best mitigation of downed conductor, dry lightning storms</li> <li>• Suggest recommendations include implementation recommendations and cost</li> </ul>	To be discussed in early 2023
CPUC	Require robust risk models of PG&E assets and operational portfolio – include an independent model validation process	<ul style="list-style-type: none"> <li>• Suggest establishment of program at a University of California system school to develop assessment capabilities to be used statewide</li> <li>• Group would be able to perform independent assessments of all IOU risk models</li> </ul>	\$5M - \$10M
CPUC	Independent review of PG&E Records Management process.	<ul style="list-style-type: none"> <li>• In lieu of an independent review, focus on tangible improvements to PG&amp;E records</li> <li>• Collection and processing of LiDAR data to improve the spatial location and inventory of electric transmission, substation, and distribution towers, poles and equipment</li> <li>• Correction of critical asset data gaps through historical records research and field inventory (e.g., missing/erroneous pole install dates)</li> </ul>	\$15M - \$20M
PG&E	Conductor replacement	<ul style="list-style-type: none"> <li>• Replacement of deteriorated bare conductors with covered conductors in HFTD.</li> <li>• Also, this incrementally addresses ignitions (conductors and splices are the highest driver), public safety, and reliability risk in HFTD areas</li> </ul>	\$20M - \$25M
PG&E	Installation of gang operated protective	<ul style="list-style-type: none"> <li>• Ganged protective device operation reduces the possibility</li> </ul>	\$10M - \$15M

	devices in place of existing fuses allow all phases to be de-energized upon detection of a fault on any individual phase	<p>for energized back feed conditions by de-energizing all phases where line to line transformers may contribute to back feed high-impedance fault conditions</p> <ul style="list-style-type: none"> <li>• While fuse removal accomplishes the goal of reducing back feed potential, the replacement of fuses with a new protective device has additional primary benefits: <ul style="list-style-type: none"> <li>○ Replacing the fuse with a ganged protective device allows for coordination with upstream protective devices such that outages continue to be localized with the fewest customers impacted</li> </ul> </li> <li>• During non-EPSS conditions reclosing for the protective zone is available to mitigate transient faults</li> </ul>	
PG&E	Deploy early fault detection on 60 - 70 kV transmission lines	<ul style="list-style-type: none"> <li>• Reduces / eliminate fault duration (eliminate back-feed potential)</li> <li>• Additionally addresses Commission concern with reliability</li> </ul>	\$5M - \$10M
		Total	\$63M

We appreciate the opportunity to provide comments on the December 6, 2022, workshop and offer proposals for how the funds identified in Decision 20-05-019 could effectively be used. As can be seen from our comments on the final Envista report and our presentation at the workshop, we have taken seriously Envista’s recommendations and worked diligently to overhaul our wildfire mitigation efforts in the wake of the 2017 and 2018 fires. We look forward to continuing to partner with the Commission on this important work as we understand there is much still to be done.