BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Update Rules for the Safety, Reliability, and Resiliency of Electrical Distribution Systems	Rulemaking 24-05-023 (Filed May 30, 2024)

CLEAN COALITION COMMENTS ON ORDER INSTITUTING RULEMAKING TO UPDATE RULES FOR THE SAFETY, RELIABILITY, AND RESILIENCY OF ELECTRICAL DISTRIBUTION SYSTEMS

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I. INTRODUCTION

Pursuant to Rule 6.2 of the Rules of Practice and Procedure of the California Public Utilities Commission ("the Commission") the Clean Coalition respectfully submits these comments in response to the *Order Instituting Rulemaking* ("OIR") *to Update Rules for the Safety, Reliability, and Resiliency of Electrical Distribution Systems*, issued at the Commission on June 6, 2024. The Clean Coalition supports the Commission's initiative to update safety, reliability, and resilience standards to match the current reality of the energy and topological conditions in the state. With climate change leading to a greater number of natural disasters and extreme weather events, aging infrastructure has had—and continues to have—the potential to lead to the loss of life and property, leading to billions of dollars' worth of costs passed onto the ratepayers.

Factoring in the state's ambitious climate and energy goals, the impact from grid outages will be exacerbated if the grid cannot be improved at a sufficient pace. As the state electrifies, an increasing reliance on electricity for daily uses and essential services will lead to far more devastating impacts from grid outages, even if the outage is brief. Therefore, ensuring that there are opportunities to increase resilience at both a system and local level must be an essential component of grid planning. The development of unique resilience-related standards will help the Commission determine how to prioritize investments, given funding constraints, and where to develop long-term plans for community-scale resilience that include proper compensation of value created (e.g., addressing the full range of benefits from resource deployments).

The Commission does have existing programs in place to address aspects of resilience, such as the Medical Baseline program, and is actively addressing ways to improve reliability (via Wildfire Mitigation Plans and an aggressive Integrated Resources Plan) and resilience—via the

Microgrids proceeding ("R. 19-09-009")—yet there is room for improvement. Resilience is still considered in terms of reliability, rather than as a separate issue that requires additional metrics to accurately quantify the impacts of outage and specific mechanisms to compensate value creation to incent resilience-investments. For example, efforts to harden the grid[1] are deemed resilience-related, albeit more closely related to reliability improvements that prevent any grid outages in the first place, rather than planning for what happens **when** there is a grid outage. Planning for a one-in-ten loss of load contingency is important, though doing so does not account for a situation where an outage in a transmission vulnerable area, or load pocket, leads to a situation where tens of thousands are without power for an extended period.[2] In addition to wildfire-related investments and increasing reliability, the Commission should also work to develop a framework that addresses how to prioritize the widespread deployment of Community Microgrids (especially in disadvantaged/energy communities), smaller investments in renewables-based microgrids based on a less constraining definition of critical facilities, and possibilities for rerouting power if a line fails. Note, that when discussing Community Microgrids, resilience is a central value stream, but there are value stacking capabilities that increase the value over a standard deployment, including the coordination of distributed energy resources ("DER").[3]

We appreciate the opportunity to comments and recommend the following:

- Resilience should be scoped in the proceeding as a unique issue.
- The Commission should strive to develop metrics to determine the impact outages and resilience that are separate from standard reliability metrics.
- Consistent resilience standards for islanding duration will make compensation more feasible.

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[1] Efforts include vegetation management, undergrounding, and installing covered conductors to overhead lines.

[2] Southern California Edison ("SCE") has submitted filings to the Commission explaining that an N-2 transmission outage could leave the 82,000 customers in the Goleta Load Pocket ("GLP") without power for a substantial amount of time before the system can be fully restored. https://clean-coalition.org/wp-content/uploads/2020/05/SCE-GLP-Emergency-Diesel-Generator-Plan-in-2015-Sara-Head-SCE-15-Jun-2017.pdf

[3] "Dispatchable DER can provide a wide range of benefits to energy systems if properly sited, contracted and operated. As electric demand increases, and uncertainty about the location, pace, and scale of electrification persists, dispatchable DER can play an important role in providing grid operators options for addressing evolving network needs." – *The Value of DER for Distribution System Grid Services.* Massachusetts Clean Energy Center, March 13, 2024.https://www.masscec.com/sites/default/files/documents/The%20Value%20of%20Distributed%20Energy%20Resources%20for%20Distribution%20System%20Grid%20Services.pdf

- The Commission should determine how to prioritize resilience expenditures in equity/energy communities through the development of a resilience investment framework.
- Reliability metrics and requirements should be modernized to match existing grid conditions and the widespread use of digital technologies.
- Additional information on cost allocations for reliability and resilience investments is needed to promote transparency and accountability.
- The Commission should promote uniformity across procedures of the electrical utility companies, wherever possible.

II. DESCRIPTION OF PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement and interconnection of DER—such as local renewables, demand response, and energy storage—and we establish market mechanisms that realize the full potential of integrating these solutions for optimized economic, environmental, and resilience benefits. The Clean Coalition also collaborates with utilities, municipalities, property owners, and other stakeholders to create near-term deployment opportunities that prove the unparalleled benefits of local renewables and other DER.

III. COMMENTS

A. Resilience should be scoped in the proceeding as a unique issue.

i. <u>The Commission should strive to develop metrics to determine the impact outages and resilience that are separate from standard reliability metrics.</u>

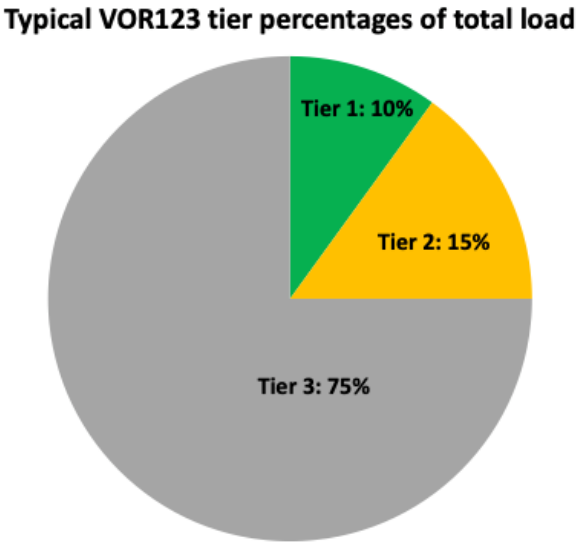
When it comes to resilience, existing risk assessments and investment procedures have not effectively resulted in investments in community-scale resilience, especially renewables-driven solutions. Investments continue to be made on a short-term basis, resulting in sunk costs that burden the ratepayers, rather than cost-effective long-term investments in community-scale renewables. The OIR references resilience a total of eight times, six of which are in the

proceeding name, document title, summary, or context sections. The other two references are included in Issue #3, "stressing the need for increased distribution infrastructure system resilience in the face of a changing risk landscape," which may be a good starting point, but remains overly broad and provides little direction about resilience-related subjects that the Commission may choose to scope into the proceeding. **The Clean Coalition strongly advocates that the Commission should include resilience as a separate issue, to ensure that such an important topic receives the attention necessary lead to the creation of a framework that drives the development of a resilient distribution grid.** Resilience is important given the likelihood of unplanned outages—especially during the summer/wildfire season—and the propensity for planned outages in the state over the last six years. The number of planned Public Safety Power Shutoffs ("PSPS") have decreased since 2018, with very few taking place in 2023, but already numerous alerts have been raised thus far in 2024, suggesting that a phenomenon that many hoped was a short-term solution may be here to stay. Likewise, Pacific Gas & Electric's ("PG&E") Enhanced Power Safety Shutoffs ("EPSS") can de-energize a line in less a second to prevent an outage, reducing the likelihood of a wildfire, but providing residents with little to no warning time before a grid outage. Over 1,000 EPSS, or Fast Trip Outages, occurred in PG&E's service territory in 2023.[4] The Customer Average Interruption Duration Index ("CAIDI") and System Average Interruption Duration Index ("SAIDI") impacts of these EPSS may not be substantial given the large number of customers in PG&E's service territory and if the outage is resolved relatively quickly, but the lack of warning and uncertainty over the potential duration of the outage does result in an oversized impact on those customers for whom power is no longer available. Incorporating a metric that considers social burden, impact on equity communities can help the Commission make more informed decisions about where to deploy alternative solutions and how to evaluate cost-effectiveness. In addition, considering resilience metrics in the investment process will impact the way that distribution costs are allocated. In the distribution investment deferral framework ("DIDF"), no resilience projects were ever proposed because the definition focused more on back-tie projects, confusing the need for resilience with reliability.[5] Of the three investor-owned utilities, only PG&E developed any quantitative or qualitative

[4] https://www.kcra.com/article/pge-meteorology-wildfire-planned-power-outages/44953654
[5] PG&E 2023 Distribution Deferral Opportunities Report, at p. 13.
https://www.pge.com/assets/pge/docs/about/doing-business-with-pge/DDOR.pdf

metrics for resilience projects, and even in that case, most microgrids projects were developed via other avenues such as the wildfire mitigation plans or the microgrids proceeding.[6] The lack of a clear definition of resilience that is distinct from reliability and explicit metrics for resilience impacted the lack of success with the DIDF. Further developing such metrics in this proceeding will help clarify the need for different distribution investments and increase the possibilities for DER as sources of ratepayer savings by deferring traditional infrastructure upgrades.

Data-driven analyses will also provide important inputs to help validate the creation of a standard value of resilience. The subject of the value of resilience ("VOR") has been addressed in principle in several proceedings, without remaining scoped in any one for long enough to be fully discussed on the record.[7] As a result, the Commission has continually declined to draw a conclusion or compensate DER for the ability to function during grid outages, even dispatchable resources. The Clean Coalition's method for valuing resilience, called VOR123 works to by categorizing loads at an individual facility into three tiers of importance, and is also applicable to tiering facilities and loads on the scale of the distribution grid scale as well. VOR123[8] effectively values resilience in a standard manner, regardless of facility type or location:



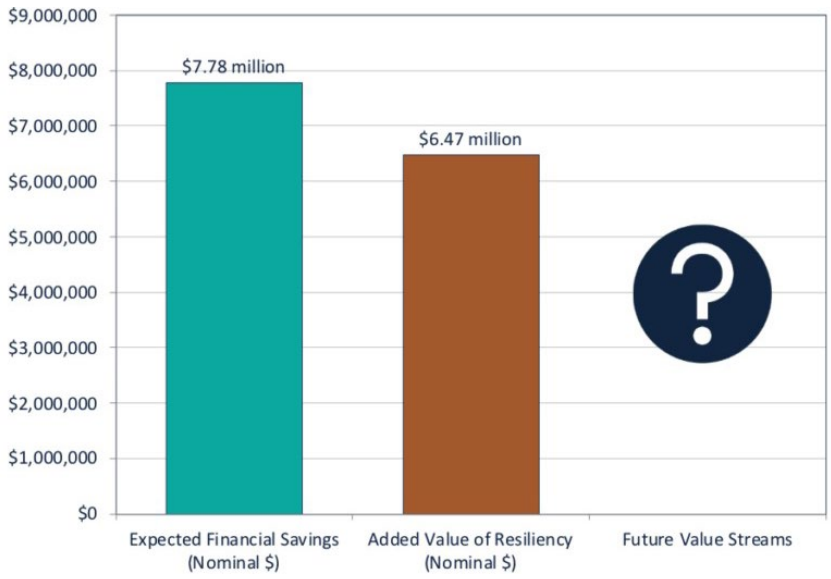
[6] Kevala DIDF Evaluation and Recommendations, from November 14, 2022, at p. 28. https://verdantassoc.com/wp-content/uploads/DIDF-Evaluation-and-Recommendations-11-14-22-FINAL.pdf

[7] See p. 6-8 of the Clean Coalition's Comments on Proposed Decision Adopting the Societal Cost Test, for a history of where the Commission has considered the value of resilience. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M533/K676/533676543.PDF

[8] https://clean-coalition.org/disaster-resilience/

Tier 1, usually about 10% of the total load, are mission-critical, life-sustaining loads that warrant 100% resilience. **Tier 2, or priority loads, usually about 15% of the total load**, should be maintained so long as doing so does not threaten the ability to maintain Tier 1 loads. Lastly, **Tier 3 are discretionary loads** that make up the remaining loads, usually about 75% of the total load. Tier 3 loads should only be maintained when doing so does not threaten Tier 1 and Tier 2 resilience.[9]

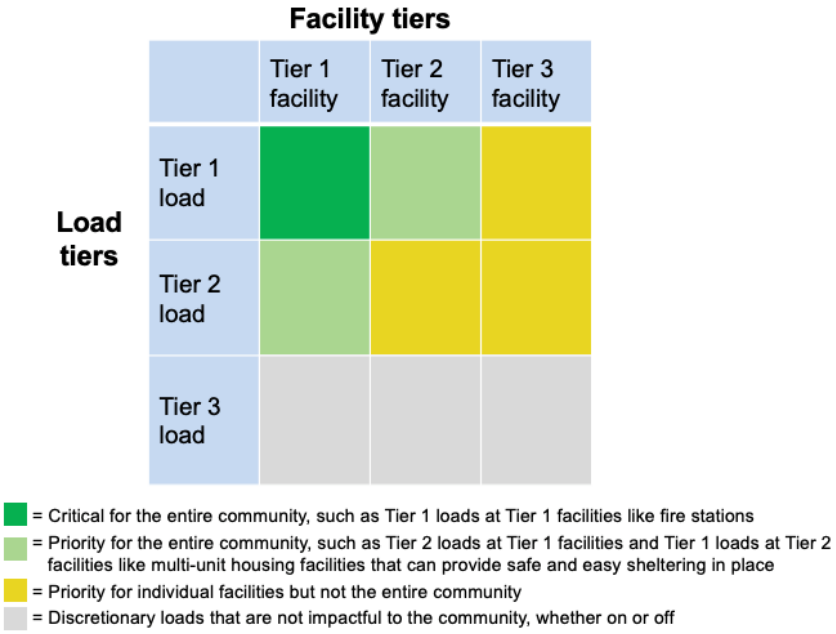
Based on this tiering system, the Clean Coalition arrived at 25% as the typical VOR123 adder that a site should be willing to pay for resilience. We have validated the 25% adder using four approaches: COS, the Department of Energy ("DOE") multiplier, a market-based approach, and an avoided diesel generator cost.[10] Our VOR123 load tiering approach is included in the Microgrids Track 2 Staff Concept Paper, on page 94 and 112 (of the pdf).[11] We also applied VOR123 to the Solar Microgrids deployed for the Santa Barbara Unified School District ("SBUSD"), which is receiving significant resilience benefits in addition to savings from reduced energy costs. Due to rate increases since this economic analysis was conducted in 2021 (see the table below), the savings are likely far greater than what was originally calculated.



Bill savings & resilience value accruing to SBUSD from 6 Solar Microgrid sites + eight additional solar-only sites.

[9] Clean Coalition Comments on Utility-Proposed Multi-Property Microgrid Tariffs, at p. 11-12.
[10] https://clean-coalition.org/disaster-resilience/#adder
[11] https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M344/K038/344038386.PDF

The same VOR123 principle can be applied to a larger grid area — with Tier 1 facilities being the most critical to a community.[12]



Though a given community might have unique preferences resilience needs, in most cases, distribution grid-level resilience includes tiering loads to size a Community Microgrid[13] will mirror the typical load tier percentages for individual facilities: 10% for Tier 1 loads, 15% for Tier 2 loads, and 75% for Tier 3 loads. The chart above demonstrates that the top emphasis will be to provision 100% resilience for Tier 1 loads at Tier 1 facilities (the darker green square) — followed a secondary emphasis for Tier 1 loads at Tier 2 facilities and Tier 2 loads at Tier 1 facilities (the lighter green squares). Tier 1 facilities include CCFs such as fire stations and emergency shelters. Depending on community priorities, other Tier 1 facilities could include grocery stores, banks, data centers, pharmacies, gas stations, electric vehicle ("EV") charging stations, and apartment complexes that can provide efficient sheltering-in-place

[12] Clean Coalition Comments on Utility-Proposed Multi-Property Microgrid Tariffs, at p. 12-13.
[13] In addition to unparalleled resilience value for CCFs, Community Microgrids provide substantial economic benefits daily by generating energy and obviating massive transmission investments.

capabilities[14] during grid outages to help avoid overwhelming emergency shelter facilities that should be reserved for people that cannot be easily sheltered in place.[15]

There is some overlap with work on a Community Microgrid tariff being conducted in the Microgrids proceeding, but we raise this issue here because the development of resilience-metrics is a complementary subject that is essential to effectively site community-scale resilience solutions. The Clean Coalition's VOR123 offers one way to measure the value of resilience; considering economic losses or Social Burden are others (and may be complementary with VOR123). Incorporating metrics will improve the ability to deploy solutions in a timely manner by aligning stakeholder interests. For example, with existing programs such as the Community Microgrid Enablement Program ("CMEP") and Microgrid Incentive Program ("MIP") applicants must take the initiative and find the funding to verify all program criteria have been met/complete initial analysis and bring in the necessary technical expertise to submit the application and to move a project forward if the application is approved.[16] That burden comes with uncertainty and even with technical assistance available, there is a substantial barrier to entry that puts pursuing resilience solutions out of reach for many communities. If instead, the results of a resilience metric were available, the Commission would be armed with the justification to align the utility and a community on increasing resiliency for ratepayers in an area by providing much needed certainty, urgency, and a directive to allocate funding on a solution that increases resilience in a portion of the distribution grid. The results of the original resilience metric could then be used to ensure that the Community Microgrid (or other solution) results in improved resilience, once deployed.[17]

ii. Consistent resilience standards for islanding duration will make compensation more feasible.

[14] https://clean-coalition.org/community-microgrids/valencia-gardens-energy-storage-project/
[15] Clean Coalition Submission of the Resilient Energy Subscription into the Record as a Draft Microgrid Multi-Property Tariff on December 15, 2023, at p. 4-6.
[16] The utility provides a degree of technical expertise but responds to prompts from the applicant. Without significant direction, urgency, and up-front technical knowledge a community will not be able to deploy a Community Microgrid. This is evident from the high failure rate in the CMEP/CMET (no projects have been completed since the Redwood Coast Airport Microgrid, which began planning in 2017).
[17] In contrast, the CMEP and MIP will be evaluated in their entirety for success, rather than whether resilience is significantly improved on a project-by-project basis.

The MIP has a requirement for 96 hours of resilience for any applicant proposing a Community Microgrid. In contrast, the CMET has a requirement for completing a Microgrid Islanding Study, but there is not a strict requirement for the duration a microgrid must be capable of islanding. For the development of community-scale resilience solutions, determining standard options for islanding durations will make it more feasible for the Commission to ascribe reasonable compensation to the resilience benefits provided. Doing so will also make it easier for the utility/community/developer to size a Community Microgrid that provides resilience and maximizes the cost-effectiveness of the solution for the ratepayers within the microgrid footprint. We recommend options for 24 hours, 48 hours, and 96 hours.

iii. <u>The Commission should determine how to prioritize resilience expenditures in equity/energy communities through the development of a resilience investment framework.</u>

In line with the Commission's goals in the Environmental & Social Justice ("ESJ") Action Plan, the Commission should consider ways to prioritize funding, so resilience solutions are deployed in ESJ communities. This suggestion aligns with Goals 1, 2, 3, 4, 5, 7, and 9 of the ESJ Action Plan, providing meaningful steps forward and opportunities to hold the Commission and the utilities accountable using a transparent process.[18] In the Microgrids proceeding, the CMEP and MIP have a focus on funding resilience projects that benefit disadvantaged communities; however, both are temporary programs with funding that will dry up at some point in the next few years. Neither program represents a long-term framework that helps the utilities systematically decide where on the distribution grid to invest a limit amount of funds.

B. Reliability metrics and requirements should be modernized to match existing grid conditions and the widespread use of digital technologies.

General Order ("GO") 166 should be amended to reflect the recent increase in planned outages. The phrase, "measured outage," should include both PSPS and EPSS, so the Commission has accurate data on the number of customers impacted and the duration of outages.

[18] https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/news-and-outreach/documents/news-office/key-issues/esj/esj-action-plan-v2jw.pdf

The current definition of a "measured outage," includes between 10% simultaneously and 40% cumulative of a utility's customer base. Given the number of customers in each of the investor-owned utility's ("IOU") service territories, a majority of outages, including planned outages will not meet this threshold. PG&E currently has around 16 million customers,[19] SCE around 15 million customers,[20] and San Diego Gas & Electric ("SDG&E") around 3.7 million customers.[21] The Clean Coalition recommends reducing the number to 0.5% simultaneously and 1% cumulatively. In addition, Standard 8 (Major Outage and Restoration Communication Standards) currently requires notification within identification of a major outage of within 4 hours of the initial damage assessment. Given digital communications, the Clean Coalition recommends this is reduced to within 1 hour, or ideally, prior to the outage occurring if possible. Standard 12 (Restoration Performance Benchmark for a Measured Event) is currently limited to utilities with over 150,000 customers. Clean Coalition supports reducing the exemption to utilities with fewer than 20,000 customers. In addition, a benchmark is needed for resiliency, and in load pockets where a major transmission or distribution outage can result in significant outages for an extended period.

GO 95 should be modernized so that no record is erased for any reason. Currently, in Section 1.18 (Reporting and Resolution of Safety Hazards Discovered by Utilities), A(1)(b) requires records to be preserved for at least 10 years. Comprehensive recordkeeping is not overly burdensome and provides a key indicator of potentially significant concerns if a point of failure is repeatedly a problem. Investments that prove to be a failure in multiple instances should have reasonableness revoked. Given digital record keeping, as well as the need to have detailed insight into improvements to an aging grid, the Clean Coalition advocates for permanent record keeping. Requirements for keeping records for 10 years should transition to indefinite-recordkeeping.

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[19] https://www.pge.com/en/about/company-information/company-profile.html#:~:text=The%20company%20provides%20natural%20gas,in%20northern%20and%20central%20California.

[20] https://www.edisoncareers.com/about-sce/#:~:text=OUR%20CUSTOMERS,-SCE's%20service%20territory&text=We%20proudly%20serve%20approximately%2015,Central%2C%20Coastal%20and%20Southern%20California.

[21] https://www.sdge.com/more-information/our-company#:~:text=SDG%26E%20is%20a%20regulated%20public,area%20spans%204%2C100%20square%20miles.

C. Additional information on cost allocations for reliability and resilience investments is needed to promote transparency and accountability.

Between the complexity of the IOU's General Rate Cases ("GRC") and Wildfire Mitigation Plans ("WMP"), it can be extremely difficult to identify the true amount of money being spent on reliability and resilience-related efforts by each IOU. Even delineating the true amount being allocated to transmission versus ("vs") distribution investments can be a challenge. Clean Coalition supports the creation of one central location that informs the Commission and stakeholders of the total amount of money allocated to each category (e.g., transmission vs distribution or reliability vs. resilience) and demonstrates how investments are prioritized. This is especially important for PG&E. The recent Staff Paper in the High DER proceeding revealed that a PG&E has a significant backlog in distribution capacity projects, with at least 277 projects totaling $1.1 billion unfunded, due in large part to wildfire mitigation projects and other repairs.[22] The implication of this is that PG&E is currently unable to keep up with the necessary pace of upgrades required to handle grid upgrades associated with electrification due to lagging behind on undergrounding and management of an aging grid. Clearly, tough choices will need to be made in the future; it is difficult for the Commission to make accurate decisions in its role as an overseer and for stakeholders to provide the most effective recommendations without a clear breakdown of how funds are being spent (without having a forensic accountant capable of decoding the differences between the most recent GRC and WMP). Given existing affordability concerns with all three IOUs, increased transparency is necessary for accountability and to promote efficient investments in safety, reliability, and resilience.

IV. SCHEDULE, DESIGNATION, AND HEARINGS

Clean Coalition supports the proposed schedule leading up to the release of the Assigned Commissioner's Scoping Memo and Ruling. We agree with the designation of the proceeding and take no position on the need for evidentiary hearing at this time.

V. CONCLUSION

The Clean Coalition respectfully submits these comments. We urge the Commission to include a separate issue in the proceeding to address resilience metrics and compensation for resilience

[22] Staff Paper for the High DER proceeding, at p. 27.

investments. In addition, we support modernizing the GOs related to reliability, resilience, and safety to reflect modern digital abilities, the need for accurate record keeping on the aging grid (and outages), and the size of modern electric utilities.

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