BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

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Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2017. (U39M)	Application 15-09-001 (Filed September 1, 2015)

COMMENTS OF THE UTILITY REFORM NETWORK ON THE PROPOSED DECISION REGARDING THE COST INEFFECTIVENESS OF PACIFIC GAS AND ELECTRIC COMPANY'S SMART METER INVESTMENT

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I. SUMMARY

The PD finds that, after failing to comply in its first two attempts, PG&E finally complied with the requirements of D.15-07-008 and D.17-05-013 to submit an updated cost-effectiveness analysis of its SmartMeter Update (SMU) program. The PD orders PG&E to continue submitting such updates as an exhibit in rate cases filed after the adoption of this PD.

TURN supports the PD, including the requirement for PG&E to continue updating its cost-effectiveness analyses in future rate cases.

However, TURN recommends that the Commission add findings in this PD to provide some guidance to utilities regarding conducting cost-effectiveness analyses of future smart grid investments. The revised cost-effectiveness update in this case showed that in the end the costs of the SMU outweighed the benefits by $278.783 million, with a resulting benefit/cost ratio of about 50%. TURN suggests that this outcome may not be unique, but it is one of the few smart grid investments subject to such an "update" analysis. Given the huge growth in utility capital investments, the need to spend large sums to protect against wildfires, and the high cost of utilities in some parts of the State, TURN recommends that the Commission require all utilities, when justifying smart grid investments, to: 1) carefully document assumptions about the potential benefits of the investment, and 2) conduct sensitivity analyses concerning the outcomes if certain assumptions prove inaccurate.

II. THE PD EXPLAINS WHY THE REVISED COST EFFECTIVENESS ANALYSIS FOUND THAT THE SMARTMETER UPDATE PROGRAM COSTS WERE TWICE THE PROGRAM BENEFITS

A. Summary of the Conclusions in the PD

The PD explains the history of this issue as follows:

- In D.09-03-026 the Commission authorized the PG&E SmartMeter Upgrade (SMU)[1] of its Advanced Metering Infrastructure (AMI) program, based primarily on the expected conservation and demand response benefits of the peak time rebate (PTR) tariff and the Home Area Network (HAN) communications system.
- However, the Commission ultimately dismissed PG&E's request to establish the PTR program and did not object to PG&E's decision not to enable the HAN; and at the same time ordered PG&E to submit and an "updated analysis of the cost-effectiveness of the SMU project without the previously-anticipated benefits of PTR."[2]
- After submitting two incomplete analyses, PG&E finally submitted a complete analysis in this proceeding on July 10, 2017, showing program benefits were now $431 million less than originally forecast. This PD reviews and approves that third attempt to revise the cost-effectiveness calculations.

The PD explains that in PG&E's updated analysis, the difference between benefits and costs changed from a positive $30.606 million, to a negative $278.783 million. The primary cause was the elimination of expected conservation and demand response benefits expected from the installation of the "Home Area Network" to power home devices, and from the adoption

[1] The upgrade involved installing slightly different "smart meters" than originally assumed in the AMI case, so as to allow for remote connect/disconnect capabilities and home area network capabilities.
[2] PD, p. 3.

of a "Peak Time Rebate" tariff to promote demand response. The PD explains that this elimination resulted from PG&E's decisions not to enable the HAN technology and to cancel the rollout of the PTR, both of which were approved by the Commission.[3] The PD thus concludes:

> Together, the PTR benefit and the HAN-related benefits assumed by the Commission in D.09-03-026 totaled $615 million, almost 80% of the total forecast SMU benefits. We nevertheless granted PG&E's requests to terminate PTR and we approved PG&E's essential abandonment of the HAN, so the purpose of directing PG&E to update its original analysis is to re-set our framework for monitoring the program, not to demonstrate whether or not the program is estimated to be cost-effective at any specific point in time.
>
> In other words, our approval of PG&E's SmartMeter Upgrade in D.09-03-026 relied on assumptions that were reasonable at that time, but we should recognize when the actually realized benefits are different.[4]

B. The Problems Evidenced in the SmartMeter Upgrade Review Are Not Unique

TURN does not wish to relitigate the past, and TURN appreciates the PD's acknowledgement that it is useful "to recognize when the actually realized benefits are different." Nevertheless, TURN suggests that the Commission can do more than just claim that the assumptions relied on for the approval of the SMU "were reasonable at that time," in order to prevent the likely recurrence of similar disappointments. The Commission should take steps to reduce the possibility that assumptions prove so erroneous just a few years later, and to ensure proposed smart grid investments are more closely scrutinized to ensure that the assumptions "are reasonable," even at the time of the request.

[3] PD, p. 10. TURN is not clear whether the Commission explicitly authorized any changes to the deployment of the HAN.
[4] PD, p. 11.

A casual skim of the Commission's annual smart grid report reveals that annual benefits of various smart grid investments are at best only equal to annual costs, at least for PG&E and SDG&E.[5] The large benefits claimed by SCE derive from SCE's reliability benefits, and the revision in the way SCE uses its value of service study to monetize reliability benefits. All of the claimed benefits are based on utility self-reporting and have never been independently verified. And SCE's claimed reliability benefits stem from the installation of traditional grid automation technologies, including SCADA equipment, reclosers for switching, and Fault Location, Isolation and Service Restoration (FLISR), which predated the "smart grid" craze or the need to "accommodate distributed energy resources (DERs)," buzzwords that all too often seem to justify just about any spending. TURN has supported spending on grid automation that could be justified based on accurate analyses of the cost-effectiveness reliability benefits of those investments.[6] We do not support throwing money at technologies just because they are new or "smart."

It is TURN's impression that insufficient attention is sometimes paid to utility proposals for "smart grid" investments, especially when they are ostensibly driven to accommodate DERs. For example, in recent rate cases utilities have proposed massive investments in software, communications and hardware, under the names Advanced Distribution Management System (ADMS) and Distributed Energy Resources Management Systems (DERMS), in order to manage "high penetrations of DERs" and create a "market platform" to unleash the value of DERs. Indeed, the primary driver of utility proposals for additional automation today – the "grid modernization" investments - is the claim that distributed generation, including wholesale and

[5] CPUC, *California Smart Grid Annual Report 2018,* February 2019, Table 1, p. 8. The vast majority of benefits.
[6] *For example,* D.10-06-048 (Cornerstone Decision).

rooftop solar photovoltaic, causes masked load and thus impedes the utility's ability to conduct the switching operations that are integral to achieving reliability benefits. In other words, the utilities claim that they must invest hundreds of millions of dollars more to make their historic reliability investments work in the face of distributed generation deployment. There is something odd about this picture, given the notion that DERs were supposed to reduce costs.

TURN appreciates that early adoption of technologies has risks, and that it is sometimes difficult to conduct accurate cost-effectiveness analyses due to lack of historical data. Nevertheless, optional smart grid investments must be given greater scrutiny. The California utilities lead the nation in per capital T&D spending, and have argued that their high capital requirements justify higher equity returns. Given the pressing competition for capital and staff, the need to address huge wildfire-related issues, and the high cost of energy service in many areas of the State, the Commission must ensure that optional investments in new technologies are more closely scrutinized and are not authorized simply because they are declared to be "smart" or "modern."

C. The Commission Should Use This Opportunity to Prevent Recurrences of the Same Problems By Requiring Greater Discussion of Assumptions and Sensitivity Analyses for Smart Grid Investments

TURN hopes that the contents of this PD will provide some opportunity for the Commission to review how utilities and this Commission evaluate the claimed costs and benefits of smart grid projects. TURN encourages the Commission to add findings to the PD that would provide guidance to utilities in future cases, specifically so as to:

- Require similar updates on the actual costs and benefits of other "smart grid" investments;[7]

[7] For example, the Commission required SoCalGas to file semiannual reports concerning their

- Require utilities to provide discussion regarding the strengths and weakness of assumptions made in calculating the benefits and costs of smart grid investments, especially when deploying nascent technologies; and
- Require utilities to do sensitivity analyses based on the potential for changes in key assumptions.

III. CONCLUSION

TURN supports the PD, but we suggest that the results discussed in this PD are not a one-time occurrence. While some utility investments are undoubtedly driven by policy considerations or compliance requirements that do not require a benefit/cost analysis or a cost-effectiveness comparison of alternatives, many currently proposed smart grid investments make assumptions concerning the role of the utility in future grid activities that are subject to considerable uncertainty and debate. It is those investments that should be given greater scrutiny and a consideration of cheaper alternatives. The Commission should add findings in this PD to require utilities to provide more explanation of alternatives and more sensitivity analyses in their requests for smart grid spending.

gas AMI deployment. However, TURN found little in those reports that demonstrates that the actual meter data induced significant conservation. There is not even any data on monthly customer access to their website information, aside from a 3% click-through activity in response to Opower Home Energy Reports. It is not clear to TURN whether the weekly Bill Tracker Alerts, which generate the majority of claimed savings, really required the installation of the AMI system. See, SoCalGas Advanced Meter Semiannual Report, February 28, 2017.

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