

September 6, 2016

California Public Utilities Commission - Energy Division
Attention: Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102

Subject: PG&E's Reply to Protest of Advice Letter 3744-G-A/4886-E-A

Pursuant to Rule 7.4.3 of the California Public Utilities Commission's (Commission) General Order 96-B, Pacific Gas and Electric Company (PG&E) hereby submits this Reply to the protest to Advice Letter 3744-G-A/4886-E-A ("Advice Letter"), of Mission:Data Coalition ("Mission:data") dated August 29, 2016. The Advice Letter submits PG&E's proposal to provide customers with incentives, and education about energy management technology ("EMT"). Mission represents approximately 40 technology companies developing "data-driven solutions to enable greater consumer adoption of distributed energy resources."¹ No other protests were filed.

Mission:data claims that "while PG&E's plan provides significantly more helpful detail than the others, all four advice letters miss a critical opportunity to more fully leverage California's \$5 billion investment in AMI and collaborate with third parties to provide consumer access to technologies to gain greater control of their energy use."² After reviewing Mission:data's grounds for protest and requested relief, the Commission should nonetheless find that PG&E maintains that its proposed AB 793 Implementation Plan outlined in AL 3744-G-A/488-E-A, submitted on August 8, 2016, complies with the intent and requirements of AB 793, and the guidance of the Joint Administrative Law Judge (ALJ) Ruling³.

PG&E appreciates many of the points raised by Mission:data. In fact, several of Mission:data's recommendations mirror strategies that have been incorporated into PG&E's current and future energy efficiency (EE) portfolio. For example, PG&E employs metered savings as part of its residential pay-for-performance program.⁴ Mission:data's criticism that "the plans do not include the required list of 'all energy management technology programs and offerings that meet the objectives of Section 717' and related incentives and marketing programs are unfounded. PG&E agrees that

¹ *Protest of the Mission; Data Coalition*, August 29, 2016 ("Protest"), p.1.

² Protest pp. 4 and 5.

AB 793 is an opportune vehicle for bringing EMTs to market. Many of Mission:data's objections are addressed by Attachment B of PG&E's Advice Letter, which contains "AB793 Energy Management Technology Offerings Proposed for Launch on or before January 1, 2017." PG&E plans to introduce new EMTs throughout 2017 and beyond.

Additionally, PG&E notes that many of Mission:data's recommendations will be included in IOUs' Business Plans. PG&E invites Mission:data to participate in the California Energy Efficiency Coordinating Committee (CAEECC), where IOUs are presenting their long term vision for EE, through their aforementioned Business Plans. Following the Commission's approval of Business Plans, PAs will use the CAEECC forum to present Implementation Plans for each sector. The Business Plans include strategies for addressing the EE needs and potential solutions for the residential, commercial (including small to medium business), public (including local governments), industrial and agricultural sectors. At CAEECC, Mission:data can absorb the full picture of IOUs' EE portfolio development process and contribute to the integration of the IOUs' AB 793 Implementation Plans into their residential and commercial Business Plans. CAEECC meetings are a venue for providing real-time feedback as these plans develop and are reviewed by a large stakeholder audience.

PG&E believes that most, if not all, of Mission:data's concerns will be addressed through the marketing and roll-out of PG&E's EMT offerings and development as described in its Advice Letter. However, to underscore the sufficiency of its filing, PG&E responds to each of Mission:data's arguments, below.

(1) PG&E presents reasonable plans to address the first item in Grounds for Protest: "The plans do not adequately consider or promote offerings that empower consumers with their own usage data made available by Advanced Metering Infrastructure."⁵

Mission:data claims that the IOUs' 793 plans "should include the full list of technologies meeting the Section 717 definition."⁶ PG&E believes that this complaint is inapplicable to PG&E's Advice Letter, which identifies PG&E's Current, Phase 1, and Phase 2 793 Offerings in the chart entitled, "PG&E Planned AB 793 Offerings." This chart describes existing product offerings in Attachment A, describes EMT products proposed for launch on or before January 1, 2017 in Attachment B and their proposed incentive budgets, and Attachment C describes EMT offerings in development for 2017.

In the protest, Mission:data appears to suggest that the IOUs list of EMT programs that meet the objectives of Section 717 should include all of the EMT providers who attended the Commission's June 24, 2016 AB 793 workshop. PG&E respectfully reminds Mission:data that PG&E must follow sourcing guidelines that require

⁵ Protest p.5

⁶ Protest p.8

competitive solicitations when preparing to work with third party vendors. This process exists to protect PG&E's customers from unreasonable expenditures. Therefore, PG&E has limited its current list of AB 793-specific vendors to those included in its Advice Letter at this time.

PG&E supports finding "compelling new options to improve energy management, bring data-driven technologies to scale and demonstrate the value of California's advanced metered investment to consumers."⁷ For example, smaller facilities can now benefit from energy savings through optimizing and maintaining the performance of their energy systems (including lighting, HVAC controls, and building envelopes).

Moving forward, PG&E noted in its AB 793 implementation plan that it intends to identify new EMTs and new vendors to offer EMTs via the Innovative Design for Energy Efficiency Approaches (IDEEA) 365 solicitation, and/or other EE solicitations in 2017 and beyond. In addition, the Emerging Technologies (ET) Technology Resource Innovation Program (TRIP) solicitation and the Emerging Technologies Coordinating Council Request for Information (RFI) process allow for ongoing intake of new, innovative EMTs through a [website](http://www.etcc-ca.com/idea-proposal-form) (<http://www.etcc-ca.com/idea-proposal-form>).

PG&E understands that Mission:data would like more details on PG&E's plans to partner with local government partners, Marin Clean Energy (MCE), and Bay Area Regional Network.⁸ PG&E is working with local governments to leverage smart meter data to perform data analytics to target energy users with inefficient homes through the Energy Fitness. Energy Fitness works with Richard Heath Associates and Home Energy Analytics, Inc. to provide these services in the Chico, Yuba City and Marysville areas. PG&E continues to develop strategies for engaging local governments and communities to serve customers that may otherwise not engage in energy efficiency if not for targeted programs. PG&E invites Mission:data to participate in the California Energy Efficiency Coordinating Committee (CAEECC) to learn more about its future portfolio and how the company is considering broadening its energy management, meter based savings, pay for performance, and other important strategies, as part of the Business Plan process.

- a. ***Request for Relief:*** *"Incentives and marketing efforts should leverage California's \$5 billion investment in AMI."*⁹

⁷ Protest p.4. For example, PG&E has partnered with CLEAResult and Enovity on the Analytics-Enabled retro-commissioning (AERCx) program since 2013. AERCx uses analytics and remote energy assessments to cost effectively serve smaller facilities (averaging 50,000 sq. ft. or less). AERCx bridges a gap in current RCx programs by reducing the overhead and engineering costs typically associated with traditionally large RCx projects.

⁸ Protest p.5

⁹ Protest p.8

PG&E currently leverages California's advanced metering infrastructure capabilities in a number of ways to help customers understand and manage their energy use. PG&E agrees with Mission:data and is supporting Home Area Networks (HAN) at a mass-market scale. PG&E's HAN infrastructure allows for a customer to self-provision their device online and can scale to meet customer demand. Although Mission:data suggests that IOUs have not adequately supported the minimum number of home energy network ("HAN") – enabling devices, leading to low HAN adoption rates.¹⁰, the infrastructure is ready for product manufacturers to create devices and services that leverage this information for customers to purchase.

As Mission:data points out, HAN devices have seen a low adoption rate and notes a lack of incentives or marketing for HAN gateways. PG&E agrees that there remains potential for increased adoption and intends to pursue appropriate pathways for deploying incentives for HAN devices in coordination with the Commission.

As outlined in the Advice Letter, PG&E integrates smart meter energy data with targeted customer outreach to deliver actionable insights that help customers understand and manage their energy use. PG&E will work to deepen customer's relationships with EMT and lead them to adjust energy usage through partnerships with third parties to create more opportunities to intercept and demonstrate the benefits of EMTs.¹¹ PG&E will continue to market solutions, such as self-serve energy audits and data-sharing, with small and large companies to empower customers in a landscape of changing rates.

Apart from activities specifically called-out in AB 793, PG&E offers a number of approaches leveraging AMI infrastructure as features of PG&E's larger EE portfolio. These offerings will become more prevalent in the coming years.¹²

At present, PG&E's residential customers can receive feedback on their energy use through Energy Alerts, Bill Forecast Alerts, Behavioral Demand Response offerings.¹³ They can directly access their real time data directly from their SmartMeter through the Stream My Data platform and/or receive data and information from third party vendors through the Share My Data platform. Stream My Data and Share My Data also allows PG&E customers to share their energy usage information to third parties, who could then utilize the data to develop EE and demand response (DR) services and products that help customers better manage their energy use.

¹⁰ Protest p.6

¹¹ Advice Letter, Attachment D, p. 28.

¹² To-date, OBF Alternative Pathway is fully launched and accepting customer applications. Quarter 4 2016, PG&E expects to release an RFP for aggregators to send in proposals for Residential Pay for Performance. PG&E's Residential Pay for Performance (P4) program uses CalTRACK Energy Efficiency Meter. This software, using AMI data, will operationalize the analysis of project performance data to provide ongoing feedback on gross savings, realization rates, and other performance metrics.

¹³ Supplemental: Request for Approval of PG&E's Assembly Bill 793 Implementation Plan, Advice 3744-G-A/4886-E-A, Attachment A, (August 8, 2016).

As part of its AB 802 implementation strategy, PG&E designed, and the Commission approved, two high opportunity projects and programs (HOPPs) – Residential Pay for Performance and On Bill Financing (OBF) Alternative Pathway, both of which leverage PG&E’s investment in AMI.¹⁴

PG&E is actively positioning itself to better leverage AMI data for the purposes of determining and reporting customer energy efficiency savings going forward. PG&E has experience in considering the advantages and challenges of using AMI data to determine project savings in implementing Commercial Whole Building demonstration program and from the design of the Residential pay-for-performance and Alternative Pathway OBF HOPPs programs.

¹⁴ In 2015, PG&E was a key supporter of Assembly Bill (AB) 802, which unlocked IOUs’ ability to provide incentives based on all estimated energy savings and energy usage reductions, taking into consideration the overall reduction in normalized metered energy consumption as a measure of energy savings

Below is a table illustrating a number of proposed technologies, many of which leverage AMI technology:

PG&E Planned AB 793 Offerings			
Phase	Current	Phase 1	Phase 2
Timeline	Available Now	For January 1, 2017	In Development for 2017
Residential Offerings	<ul style="list-style-type: none"> ▪ Advanced Power Strips ▪ Behavioral Demand Response Pilot ▪ Bill Forecasts ▪ Bring Your Own (BYO) Thermostat Demand Response Pilot ▪ Energy Alerts ▪ Energy Fitness ▪ Home Energy Checkup ▪ SmartAC™ ▪ Share My Data ▪ Stream My Data 	<ul style="list-style-type: none"> ▪ Auto Demand Response ▪ Nest Seasonal Savings Assessment ▪ Smart Thermostat Incentive ▪ Time-of-Use Management App ▪ WeatherBug Smart Thermostat Assessment 	<ul style="list-style-type: none"> ▪ Energy Engagement from School Energy Education Programs ▪ Product Bundles ▪ Residential Mobile App ▪ Smart Appliance Incentives ▪ Web-based Mobile Application
Small and Medium Business Offerings	<ul style="list-style-type: none"> ▪ Auto Demand Response ▪ Business Energy Checkup ▪ Energy Management Systems Assessment ▪ Enhanced In-Season Support for Peak Day Pricing ▪ On-Bill Financing Alternative Pathway ▪ Share My Data ▪ Stream My Data 	<ul style="list-style-type: none"> ▪ Bill Forecasts ▪ Energy Alerts 	<ul style="list-style-type: none"> ▪ Circuit Level Load Monitoring ▪ Commercial Mobile App ▪ Energy Management System Pay for Performance ▪ Managed Energy Services

(2) PG&E collaborates to create market opportunities for third parties: *“The plans fail to adequately collaborate with third parties of animate the market for data-driven technologies.”*¹⁵

Mission: data states that, “With the exception of PG&E, outreach to third parties and other stakeholders was minimal...”¹⁶ PG&E agrees that stakeholder collaboration is critical to building successful EE portfolios.

¹⁵ Protest p.6

¹⁶ Ibid.

PG&E presented plans and received stakeholder feedback for AB 793 implementation at the CAEECC meeting on July 13, 2016. PG&E and the statewide IOUs continue to do so as part of the ongoing Business Plan process of developing our EE portfolios. PG&E is working with a variety of third party providers to offer or test new products listed below for both residential and commercial customers.

Mission: data and its members are welcome to join in the monthly meetings of the California Technical Forum (CalTF) and CAEECC, where PG&E and the other IOUs hear directly from EE market participants about their EE needs and program suggestions. Their participation will help the IOUs to design incentives and outreach in their EE portfolios, and specifically provide PG&E with valuable feedback on the integration of their current and planned AB 793 offerings into its Business Plans.

- a. **Request for Relief** *“To animate markets and create broad choices for consumers, incentive programs should include financial incentives, including rebates for hardware, software and services offered by third parties and be coordinated with marketing efforts of third parties and other stakeholders.”¹⁷*

PG&E has proposed to leverage its partnerships with other trusted brands to provide customers with co-branded communications.¹⁸ Additionally, PG&E is currently working with two smart thermostat manufacturers to coordinate Q4 marketing efforts to amplify the launch of the smart thermostat rebate. For new offerings, PG&E will review partnerships and co-marketing opportunities that work in the best interest in of our customers and support energy policies.

PG&E is already using an online marketplace to offer customers concrete options to reduce their energy use. PG&E currently offers an Energy Efficient Products Marketplace [online](https://marketplace.pge.com/) (<https://marketplace.pge.com/>) that provides customers with information and easy access to available PG&E rebates on energy efficient products. PG&E is also planning to launch a marketplace type of website for companies leveraging Share My Data. The marketplace will match customers with third parties offering solutions in their areas of interest (e.g. a residential customer looking for an app to understand their energy usage or a commercial customer looking for software that provides a dashboard across sites).

As mentioned, PG&E will work with third parties via the IDEAA 365 Solicitation, the TRIP Solicitation and the Emerging Technologies Coordinating Council RFI process. PG&E also works with third parties to support Local Government Partnerships such as the Energy Fitness program.

¹⁷ Protest p.8

¹⁸ AL, Attachment D, page 28.

PG&E incorporated five of the six marketing strategies recommended by Mission:data in its Advice Letter.¹⁹ The aim of these efforts will be increase awareness and participation of third party developers using Share My Data, which should also result in an increase in customers adopting these products. PG&E will also be working with the Green Button Alliance on promoting these efforts. Beginning in 2016, PG&E will also launch marketing efforts around Share My Data. PG&E is exploring an education and outreach effort in 2017 to educate EE contractors (leveraging programs such as Pay for Performance and On-bill Refinancing) about HAN and Green Button Connect enabled technologies.

(3) PG&E uses metered savings and pay-for-performance strategies appropriately: “The ALs do not make use of metered savings and the Commission’s directive to make greater use of such strategies such as pay-for-performance.”²⁰

a. Request for Relief: “Savings should be measures with meter data and pay-for-performance models should be used, with less reliance on work papers”²¹

Mission:data objects to the IOUs’ continued use of completed work papers as the basis for claiming savings and establishing incentives and recommends the use of pay-for performance incentives that are paid up-front, subject to true up once actual savings have been determined.²² While the use of work papers can be challenging, they are the basis of calculating deemed savings and may provide cost advantages. Existing offerings rely on work paper savings because they are designed as a part of the existing savings evaluation framework.

New offerings, including Smart Thermostat, are based on work papers that were already in development at the time the AL was released.

Mission: data points out later, the “work paper” evaluation methodologies do not work as well for software and other rapidly-evolving technologies.”²³ However, deemed savings may be preferable in certain cases.

Where savings can be calculated for the replacement of existing technologies, as in the case of smart thermostats, a deemed methodology for setting rebates and claimable savings levels is the most efficient program model. The process of establishing performance specifications and incenting customers to acquire products that meet those specifications is the foundation of existing efficiency programs. When replacement

¹⁹ AL, Attachment D, pages 25-27.

²⁰ Protest p.6

²¹ Protest p.9

²² Protest, pp. 6 and 7.

²³ Protest, p. 9

technology can be thoroughly studied and vetted for deemed savings, incentivizing those products is preferable. That said, PG&E fully embraces meter based savings and pay for performance models, and agrees that more opportunity exists to leverage California's investment in AMI.

PG&E supports Mission:data's recommendation to find more opportunities to use metered savings and pay for performance models as methods to determine energy savings.²⁴ However, while using normalized pre- and post-project AMI data has the potential to be a more accurate and more cost-effective for some technologies or customers, it is not universally superior to current savings estimation methodologies, such as ex-ante deemed or customized savings estimates. Some examples of projects for which a net-metered energy consumption (NMEC) approach using AMI data may not be appropriate or feasible include:

- a) projects with less than 10% predicted site energy savings;
- b) customers with highly variable loads;
- c) customers with process driven loads;
- d) customers that do not have comparable customer groups, and;
- e) interventions that require customer payments upfront before savings are determined

PG&E is fully supportive of using AMI data to better identify energy savings opportunities, evaluate customer or program energy savings, and improve the cost effectiveness of administrative, engineering, and evaluation efforts of our offerings. In order to maximize PG&E's ability to support EMT technologies, PG&E does not intend to limit EMT technologies savings determination methodology to any single EM&V approach, such as only pursuing NMEC using AMI data. Instead, PG&E will consider NMEC approaches alongside custom and deemed approaches and employ the methodology that is most appropriate given the measure, customer, and intervention strategy.

PG&E again recommends Mission:data participate in the CAEECC to learn more about PG&E's vision for meter based savings via its Business Plan filings.

(4) PG&E Will Adopt Marketing Plan Metrics Specific to AB 793 Issues: *"Marketing plans metrics should target actual energy savings and energy management technology adoption."*²⁵

²⁴ In fact, these elements are currently a feature of PG&E portfolio. Since 2013, PG&E has led the Commercial Whole Building demonstration, which is founded on meter-based savings. On September 1, 2016 PG&E filed its 2017 Budget AL which outlined PG&E plans to expand this into a program in 2017. The budget also describes PG&E's plan to launch an Industrial Strategic Energy Management program in 2017 that will rely on meter based savings and a pay for performance model. This is in addition to the expansion of the HOPPs mentioned above, one of which is a pay for performance program.

²⁵ Protest, p. 7

- **Request for Relief:** *“Marketing plan metrics should be expanded.”*²⁶

PG&E appreciates Mission: data’s feedback. PG&E is already in the process of upgrading its key metrics and performance indicators through a supplemental Marketing Plan Advice Letter filing that it plans to submit on September 16, 2016.

Conclusion

PG&E thanks Mission:data for their engagement and invites their feedback. Mission:data’s protest demonstrates that the development of measures, incentives, and marketing of EMT is an ongoing process, the success of which requires coordination between technology providers and EE program administrators. PG&E believes that its AB 793 program, as proposed by the supplemented Advice Letter, meets the ALJs’ Joint Ruling requirements and all reasonable expectations for the IOU promotion of EMT at this time and should be approved. PG&E encourages Mission:data to participate in the ongoing stakeholder engagement process with PG&E and the other IOUs through the CAEECC and Cal TF.

Respectfully submitted,

/S/

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cc: Energy Division Tariff Unit
Jim Hawley, The Mission: Data Coalition
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Service List R.13-11-005
Service List R.13-09-011

²⁶ Protest p.9