February 20, 2018

Questions for Informal Comment
Demand Response Pilot for Disadvantaged Communities

Please send responses to the following questions by **COB March 5, 2018** to JL2@cpuc.ca.gov Energy Division will post stakeholder comments at the following link, next to the draft straw proposal and other material from the February 15, 2018 workshop: http://www.cpuc.ca.gov/General.aspx?id=7032

- Please identify which question you are answering and do not submit PDFs.
- If at all possible, work with other organizations to provide joint comments.

Next Steps

These informal comments will help Commission staff update the draft straw proposal for mailing to service list Application 17-01-012 as part of an Administrative Law Judge ruling. See schedule below from Page 14 of the draft straw proposal:

Action	Timing
Workshop on Straw Proposal	February 15, 2018 (9:30 am – 12:30)
Informal comments due on Straw Proposal	March 5, 2018
Final Proposal (to issue with ALJ Ruling)	Late March/Early April, 2018
Parties file comments on Final Proposal	TBD (April)
Parties file reply comments on Final Proposal	TBD (April/May)
Proposed Decision addressing outstanding issues	TBD

Questions

Introduction by PG&E:

PG&E provides "informal" responses to the questions posed by the Commission for undertaking a Demand Response pilot for Disadvantaged Communities (DACs). These responses are based on the assumption that the definition of DACs, as provided for in the straw proposal from February 7, 2018, are the ones utilized for the pilot. In addition, it is assumed the focus of the pilot would be to address air pollution from power plants. If certain basic assumptions in the February 7th straw proposal are changed, PG&E reserves the right to modify responses to these questions. PG&E appreciates the opportunity to provide these comments and looks forward to working with the Commission and other interested parties.

1. Regarding the draft straw proposal:
   i. Would you change the environmental and economic goals, the system and local objectives, or the definition of disadvantaged communities? If so, please describe and explain.

      Response: PG&E has no objection to the stated primary goal of proposed pilots being to explore ways in which demand response products can provide environmental and economic benefits to DACs. Likewise, PG&E agrees that using the SB 535 definition for DACs, which is consistent with the proposed definition for the Integrated Resource

Planning (IRP) proceeding will increase the relevance and transferability of data analysis and recommendations.

ii. What would you propose for pilots targeting disadvantaged communities?

Response: PG&E outlines two potential DAC pilots below that leverage learnings gained through PG&E's Phase II Demand Response Transmission and Distribution Demand Pilot (DR T&D Pilot)[1]:

(1) A DAC pilot leveraging the learnings from PG&E's Behavioral Demand Response study[2] undertaken as part of Phase II of the DR T&D Pilot to develop a local behavioral demand response program linked to one or more air quality metrics. The objective would be to inform residents and businesses of actions they can take to reduce local air pollution by reducing energy demand on days with poor air quality.

(2) In addition to the behavioral demand response messaging, again leveraging learning from Phase II of the DR T&D Pilot and associated PG&E Demand Response Emerging Technologies (DRET) Assessment,[3] PG&E could develop a DAC pilot which incorporates a bring your own thermostat (BYOT) program for customers who have installed programmable communicating thermostats and reside in the San Joaquin Valley area.

PG&E is also open to exploring with stakeholders ways in which existing demand response, energy efficiency or electrification programs or pilots can be leveraged for DR DAC pilots:

- Smart AC Direct Load Control Program
- DR Excess Supply Pilot
- DR Supply Side II Pilot
- DR Day Ahead Base Interruptible Program Pilot
- EE Smart Thermostat Pilot
- San Joaquin Valley Electrification Pilot

iii. What if any additional data is needed to inform the structure of the pilots?

Response: PG&E is currently working with PSE Healthy Energy[4] to develop a better understanding of which gas fired peaking plants in the San Joaquin Valley Air Basin tend

[1] Report titled "PG&E's Demand Response Transmission and Distribution Pilot – Phase 2 Final Report" dated April 11, 2017. (Link: http://calmac.org/publications/DR_for_TD_Summary_Report_-_FINAL_TO_PGE.pdf)
[2] Report: http://www.calmac.org/publications/Behavioral_Demand_Response_Study_Final_Report_CALMAC.pdf
[3] Report: https://www.etcc-ca.com/reports/third-party-bring-your-own-thermostat-demand-response-pilot-evaluation?dl=1490813101
[4] https://www.psehealthyenergy.org

to be dispatched coincident with poor air quality days and to develop metrics that can be used to identify local power plants with the highest impact emissions.[5]

PG&E is currently in the process of reaching out to the San Joaquin Valley Air Pollution Control District (Valley Air District)[6] to get their input on how an effective DR pilot might be designed and evaluated and to assess the level of collaboration that may be possible between PG&E and the Valley Air District.

PG&E will need to develop a better understanding of how reductions in local area loads on days with poor air quality impact the dispatch of gas fired peaking power plants located in or near DACs.

2. Regarding location:
   i. Which geographic area or community should these pilots target in each IOU service territory?

      Response: As outlined above, PG&E is considering pilots primarily focused on environmental benefits targeted to reducing the dispatch of gas fired peaker plants on poor air quality days that are in or near DACs that fall within the counties that comprise the San Joaquin Valley region (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern). This is the most likely area where peaking power plants in or near DACs are being dispatched coincident with poor air quality days.

   ii. What is the radius of customers around that area whose actions could most impact operations or siting of gas power plants? (If you agree with the draft straw proposal, include any details on the location of disadvantaged communities based on the CalEnviroScreen tool, and any overlap with CAISO Local Capacity Areas, or higher polluting power plants, etc.)

      Response: For the potential behavioral demand response and BYOT pilots focused on improving air quality within the San Joaquin Valley Air region, PG&E would be targeting all customers who reside in or have businesses located in San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and Kern counties.

3. Strategy to test for possible largescale implementation:
   i. What strategy or strategies should the pilots test? (e.g. targeted marketing, special incentive structure, use of storage, new DR (increase use to avoid curtailment),)
      Response:
      1) With respect to pilots focused on reducing local air pollution burden, the pilots should test:

[5] See for example: *A framework for siting and dispatch of emerging energy resources to realize environmental and health benefits: Case study on peaker power plant displacement*; Elena M. Krieger, Joan A. Casey, Seth B.C. Shonkoff; Energy Policy 96 (2016) 302–313.
[6] Link: http://www.valleyair.org

a) The efficacy of behavioral demand response in reducing dispatch of local gas fired generation coincident with poor air quality days
b) The efficacy of DR signals being pushed to PCTs in reducing dispatch of local gas fired generation coincident with poor air quality days
c) Special incentive structures

2) With respect to pilots focused on increasing uptake of technologies that can help low income customers in DACs better manage their monthly energy bills, the key strategies to test should be:
   a) Ability to understand which end-uses are driving demand that is coincident with the confluence of dispatch of local peaking power plants and poor air quality
   b) Targeted marketing
   c) Special incentive structures

ii. Which customers or customer classes should the pilot target? (e.g. residential customers, community organizations and small/medium businesses that serve the community, etc.)

Response: Pilots focused on reducing local air pollution should target all customer classes that have potential to reduce or shift load which results in less dispatch of the local gas fired generation.

Pilots focused on helping customer manage their energy bills should be focused on low income customers who reside in a DAC.

iii. Please note if the IOUs should hire a third party to implement the pilots, including what attributes the third party should have and why.

Response: Pilots with complex scope or scale or that go across IOUs may require a third party to implement. All potential pilots described by PG&E may require a third party to do a pre-and post-pilot evaluation and report.

4. Low Income Energy Efficiency Pilots for CARE customers:
   - How would you use the $750,000 budget from the low income energy efficiency proceeding (Decision 17-12-009) in the service of the demand response pilots for disadvantaged communities given these funds must benefit CARE[7] customers specifically?

     Response: As discussed in response to earlier questions PG&E is open to exploring proposals from stakeholders regarding how existing DR, EE and electrification programs or pilots can be leveraged to support the DR DAC pilot.

   - How would the pilots use CARE customer electric use profiles that detail end use loads such as air conditioning?

[7] Low income customers in the California Alternative Rates for Energy (CARE) program receive a 30-35 percent discount on their electric bill and a 20 percent discount on their natural gas bill. They must meet income guidelines http://www.cpuc.ca.gov/General.aspx?id=976

Response: All information regarding customer electric end-use profiles can potentially be used to inform pilot design. Of particular interest would be whether the residents have central HVAC systems or have alternative ways of providing space heating and cooling and for customers in coastal areas what end uses may be contributing most to loads coincident with periods when there is a confluence of gas fired peaking generation being dispatched and poor air quality.

- How could the pilots incorporate a target group or a control group of CARE customers?

  Response: Ideally pilots will utilize a randomized control trial (RCT) methodology. Because of the large population of CARE customers in the San Joaquin Valley area it should be possible to implement an RCT design to study how the pilot treatment has impacted CARE customers. However, it should be noted that DACs are not synonymous with low income. Initial statistical analysis suggests that about 50% of low income customers reside in DACs as defined in the guidance document. It should also be noted that pilot design and evaluation will necessarily be tailored to the pilot objects that are ultimately approved.