SDG&E GRC Phase 2
Demand Charge Workshop

August 27, 2019

How is SDG&E's distribution demand charge study used in the application?

- SDG&E filed and served supplemental information on August 12 to explicitly state whether and how SDG&E's distribution demand charge research study, and/or the results of the alternative scenario, impact its application.
- Portions of the workpapers related to distribution revenue allocation and supporting the Chapter 5 Revised Prepared Direct Testimony of William Saxe reflect the distribution demand charge study that SDG&E prepared in response to Ordering Paragraph 33 of D.17-08-030.
- SDG&E did not, however, flow through any of the results of its distribution demand charge study into SDG&E's proposed distribution revenue allocations or proposed distribution demand charge rates. This is because SDG&E made the policy determination to propose to maintain the current 39% / 61% split of non-coincident-to-peak demand charge cost allocation that the Commission approved in D.17-08-030.

Table 1: Comparison of Distribution Demand Charge Study Allocations

Allocation	Non-Coincident Demand	Peak Demand
Current (from SDG&E 2016 GRC Phase 2)[5] and Proposed (for 2019 GRC Phase 2)[6]	39.0%	61.0%
SDG&E Results Presented in its Distribution Demand Charge Study[7] and its Ch. 5 Workpapers[8]	94.8%	5.2%
Results of Alternative Analysis Per Resolution E-4951[9]	42.1%	57.9%
Results of Alternative Scenario from May 23, 2019 workshop (using prior TOU Periods)[10]	60.5%	39.5%

Footnotes in Table 1 correspond to the August 12 filing.

Rate Design Principles (R.12-09-013)

Cost Of Service RDP	Affordable Electricity RDP	Conservation RDP	Customer Acceptance RDP
(2) Rates should be based on marginal cost; (3) Rates should be based on cost-causation principles; (7) Rates should generally avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals; (8) Incentives should be explicit and transparent; (9) Rates should encourage economically efficient decision-making.	(1) Low-income and medical baseline customers should have access to enough electricity to ensure basic needs (such as health and comfort) are met at an affordable cost.	(4) Rates should encourage conservation and energy efficiency; (5) Rates should encourage reduction of both coincident and non-coincident peak demand.	(6) Rates should be stable and understandable and provide customer choice; (10) Transitions to new rate structures should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and appropriately considers the bill impacts associated with such transitions.

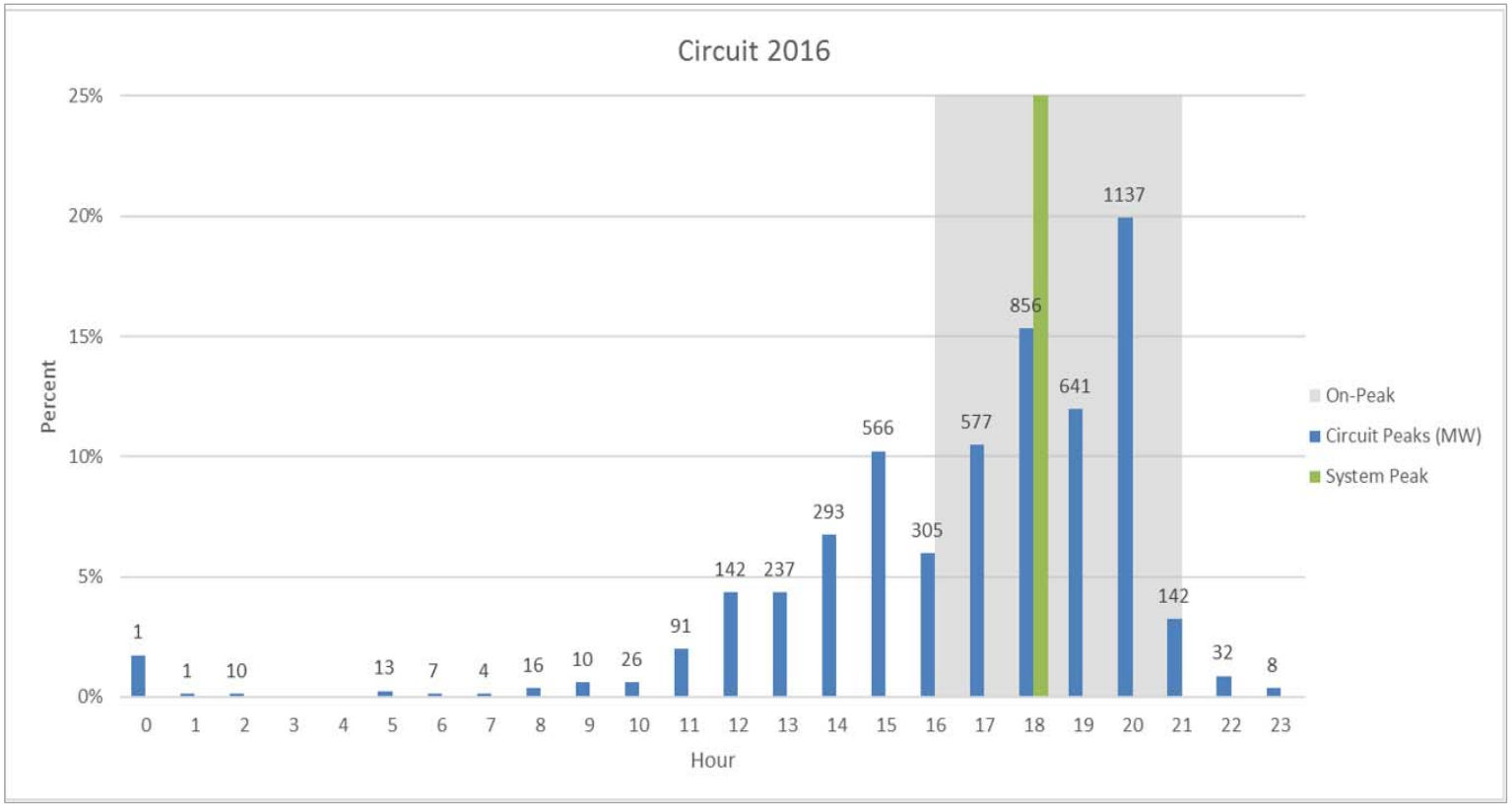
Cost-Based Rate Design

- Customer Costs (billing, call center, meters, service drops, transformers)
  - SDG&E incurs these costs on a fixed basis for each interconnected customer whether or not the customer uses electricity; therefore, customer costs should be recovered in a fixed or monthly charge ($/month).
- Distribution Demand Costs (poles, wires, substations)
  - SDG&E incurs these costs independent of volumetric energy usage. These costs are incurred based on local capacity needs to meet the combined maximum demand of customers served by a given circuit. These costs are best recovered through non-coincident (NCD) demand or coincident (peak) demand charges ($/NCD–kW or $/peak-kW).
- Generation Capacity Costs (cost of adding kWs to the system)
  - SDG&E incurs these costs to meet net peak capacity needs of the system. These costs are not incurred on the basis of volumetric energy usage. Therefore, system capacity costs should be recovered in a demand charge consistent with the time period in which those costs occur, which is demand at the time of net system peak when SDG&E may require additional capacity ($/peak-kW).
- Commodity Energy Costs
  - SDG&E incurs these costs on a variable basis (based on volumetric energy usage) and the cost depends on the time of delivery. Therefore, these costs should be recovered in a volumetric energy charge ($/kWh) that varies by time period.

Distribution System

- SDG&E's electric distribution system designed to meet non-coincident peak demand (individual customer service requirements)
  - Circuits, substations, and transformers peak at different times
  - Distribution assets (substation, transformer, circuit) are designed to meet peak demand for a specific location
  - Industry standard distribution planning process

Example of SDG&E Circuit Peaks (Time Period)



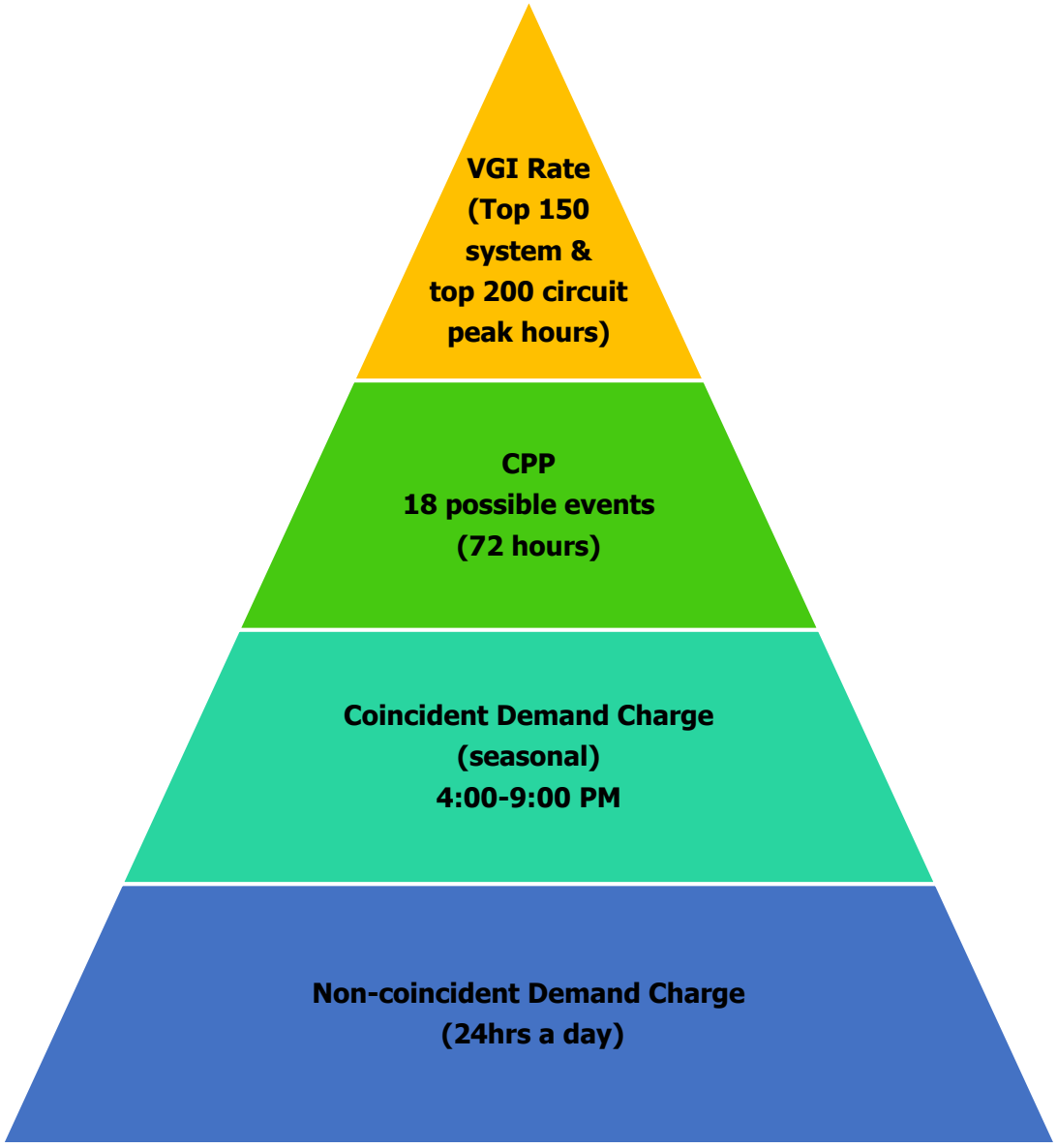
	Circuit - % Peaking	
	On-peak (4pm - 9 pm)	All Other Hours
2014	58.2%	41.8%
2015	59.1%	40.9%
2016	67.0%	33.0%

Generation System

- SDG&E's electric generation system is designed to meet system net load peak demand.
  - Net Load reflects electricity demand net of electricity supply from solar and wind resources.
    - Need is greatest in evening when renewables are not as readily available.
  - Demand charges applicable during standard on-peak TOU period (4:00PM-9:00PM)
    - Encourages customers to consistently shift demand from these high-cost hours.
- Critical Peak Pricing (CPP) rates are current default rates for Small Commercial, M/L C&I, and Agricultural customers with demands of 200 kW or greater.

How SDG&E's demand/dynamic charges are applied

More Dynamic
More Uncertainty
Preferred for Low Capacity Factors
Higher Charges (relative)
Shorter Applicable Time Periods



Less Dynamic
Less Uncertainty
Preferred for High Capacity Factors
Lower Charges (relative)
Longer Applicable Time Periods

All-volumetric rates may lead to cost shifts & undercollections

- **SDG&E Schedule DG-R**
  - Optional: open to C&I customers with distributed generation systems
  - Distribution & Commodity costs all $/kWh volumetric TOU vs. default schedule with demand charges
  - Undercollections are tracked annually (compare what was paid to what these customers would have paid on their otherwise default rate schedule)
  - Any undercollections are shifted to the whole M/L C&I class
  - In 2018, 310 customers (553 accounts) on Schedule DG-R

Annual Schedule DG-R Cost Shift		
Year	**Undercollections ($ millions)**	**YOY % Increase**
2015	$2.4	-
2016	$3.9	65%
2017	$5.4	38%
2018	$6.2	14%
2019	$7.8	26%