Distributed Generation (Solar) Cost of Service Study

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Distributed Generation Background

- Public Acts 341 and 342 direct the Commission to "…conduct a study on an appropriate tariff reflecting equitable cost of service for utility revenue requirements for customers who participate in a net metering program or distributed generation program."
  - The study and tariff must be completed by April 20, 2018
  - The tariff will be a "concept tariff" because the actual numbers on the tariff will be based on the unique costs of each utility.
  - Actual numbers will be determined in rate cases filed by utilities sometime after June 1, 2018

Distributed Generation Tariff

- The tariff will be applicable to the following customers once approved by the Commission as part of a utility rate case :
  - Customers enrolling in the distributed generation program after their utility's rate case order is issued (the earliest date would be mid-2019).
  - Existing distributed generation customers who have been in the program for 10 years or more.
    - A process for identifying, notifying and moving these customers to the distributed generation tariff will be developed in each utility's rate case.
    - The Commission issued an order in Case No. U-18383 on July 12, 2017 finding that customers who enroll in the distributed generation program before the Commission approves the new DG tariff in a rate case order are "grandfathered" under net metering terms and conditions for 10 years from the date of enrollment in the net metering program.

Key Questions

- Preliminary Staff study (presented to the DG Workgroup on April 19) suggested that an inflow-outflow mechanism is a reasonable approach for the DG tariff.
- That study raised additional questions:
  - Should DG customers be placed in a separate rate class for purposes of a cost of service study?
  - How should compensation for the outflow credit be calculated?

DG Cost of Service Study

- For this study, we need to determine production- and distribution - related costs caused by a solar distributed generation customer class.
- Solar distributed generation customer class (DG Class)
  - Based on DTE's previous rate case cost of service study
    - Based on DTE's rate case U-18014, which had a 2014 historic year
    - 1,109 residential net metering customers were removed from the residential rate class and placed in a separate DG Class
      - Need to decide how to address a tariff for commercial and industrial customers
    - DG Class costs of service is compared to the Residential Class
    - Costs are caused by how the DG Class uses the system. For the study, we assumed DG Class costs are based on "Inflow." Inflow is all kWh delivered by the utility to the customer.

Production-Related Cost of Service Analysis

- Production-related costs (plant, construction work in progress, depreciation reserve, plant held for future use) are assigned to each customer class according to a method called 4 CP 75/25.
- 4 CP
  - Coincident Peak (CP): DTE's system-wide, highest demand hour
  - Peak hour for DTE's system-wide, highest demand in each of the four summer months (June, July, August and September)
- 25% weighting of the rate class contribution to annual system load in MWh.
- 75% weighting based on the rate class contribution to peak load during the 4 CP hours.
- Each rate class has a 4 CP 75/25 percentage that is multiplied by total production-related costs to allocate these costs to the class.

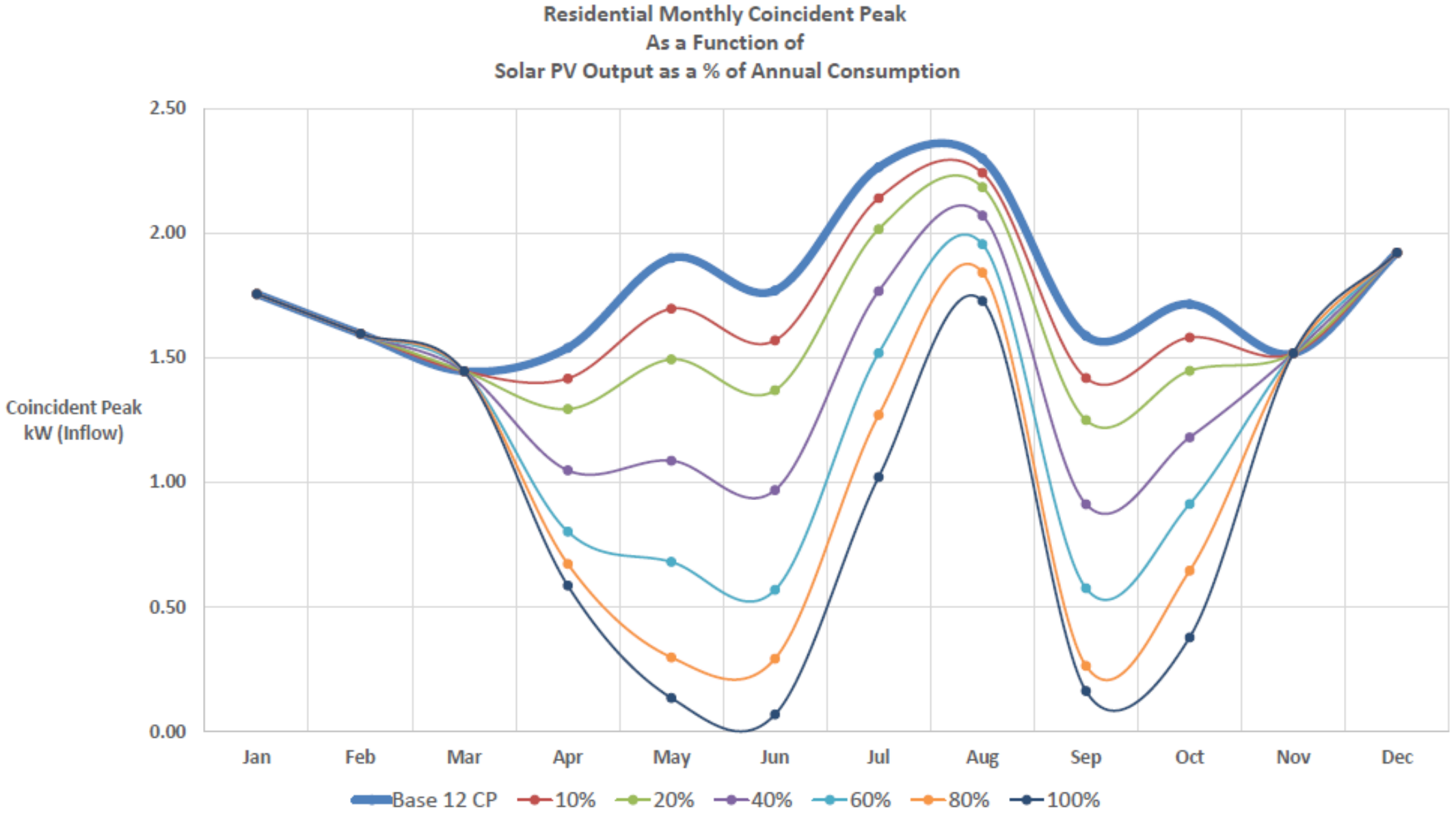
Summary Table Production-Related Costs

Allocator	System-Wide	Residential Class	DG Class	Residential Class Per Customer Annual	DG Class Per Customer Annual	DG Class as % of Residential Class
Number of Customers	2,170,419 Customers	1,931,828 Customers	1,109 Customers			
Energy	44,902,907 MWh	15,880,137 MWh	9,208 MWh	8,220 kWh	(13,517 kWh) 8,303 kWh	(61%) 101%
4 CP Capacity	8,649.9 MW	4,138.8 MW	1.6 MW	2.1 kW	(3.4 kW) 1.4 kW	(42%) 66.4%
4 CP 75/25	100.00%	44.7%	0.0188%			73.3%

	Residential Class Per Customer Annual	DG Class Per Customer Annual	DG Class as % of Residential Class
Production Revenue Deficiency	$12	($106)	
Production Revenue Requirement	$647	$545	84%

Production-Related Cost Conclusions

- Production-related costs to serve a DG Class customer are 16% less than serving an average customer in the Residential Class due to the DG Class having a smaller contribution to capacity usage during the 4 CP hours.
- MPSC Staff's Initial Thoughts
  - The historical net metering customer group is much too small to create a new customer rate class. Large customers can skew a small grouping.
  - Keep DG customers within the Residential Rate Class...for now.
  - Use rate design within the Residential Rate Schedule to address the DG customer's lower cost of service revenue requirement.


Residential Monthly Coincident Peak
As a Function of
Solar PV Output as a % of Annual Consumption
Coincident Peak
kW (Inflow)
2.50
2.00
1.50
1.00
0.50
0.00
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Base 12 CP
10%
20%
40%
60%
80%
100%

Distribution-Related Cost of Service Analysis

- Coming soon via email and will be posted on DG website.
- Working with DTE.
- Allocated based on various measurements of peak.

New DG Work Plan

- Complete the cost of service study analysis.
- Develop concept for determining outflow-based bill credit for utilities to compensate customers for solar generation they export to the grid.
- Staff will prepare and issue a report describing the cost of service analysis and tariff. The draft report will be completed by December 1, 2017 and there will be an opportunity for workgroup participants to comment.
- The will be a Commission-ordered comment period on the tariff beginning in early January and concluding in mid-February. This should allow time for a Commission order by April 20, 2018 approving a “concept tariff” to be filed in utility rate cases.
- May need an alternate concept tariff for utilities using metering that does not measure and record inflow and outflow.

Future Meeting Dates

- September 25, 2017 meeting cancelled
- Wednesday, October 18
- Tuesday, November 7
- Tuesday, December 12

Next Steps

- Our goal is to get proposals out to this work group so that we will have plenty of time for discussion before we have to wrap up the work group process in mid-February.
  - Staff will email and post our distribution-related cost of service analysis by **Wednesday, September 20, 2017**.
  - Staff will email and post our concept tariff by **Monday, October 2, 2017.**
  - Staff will email and post our solar generation outflow bill credit approach by **Wednesday, November 1, 2017**.

Next Steps (cont.)

- The next meeting is Wednesday, October 18.
  - Staff will present our distribution-related cost of service analysis and concept tariff.
  - Presentations by others on cost of service and concept tariff.
  - Interconnection discussion.

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