

Draft for Discussion Purposes Only

Distribution Forecast Working Group

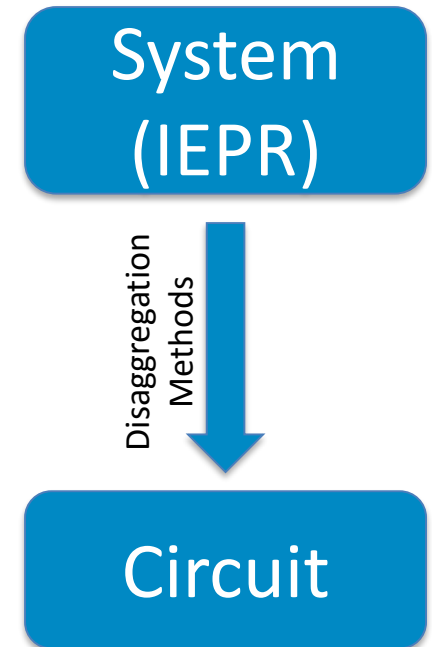
Objectives of DER Disaggregation
Methodologies and Current Approaches

Meeting 1: April 18th 2018



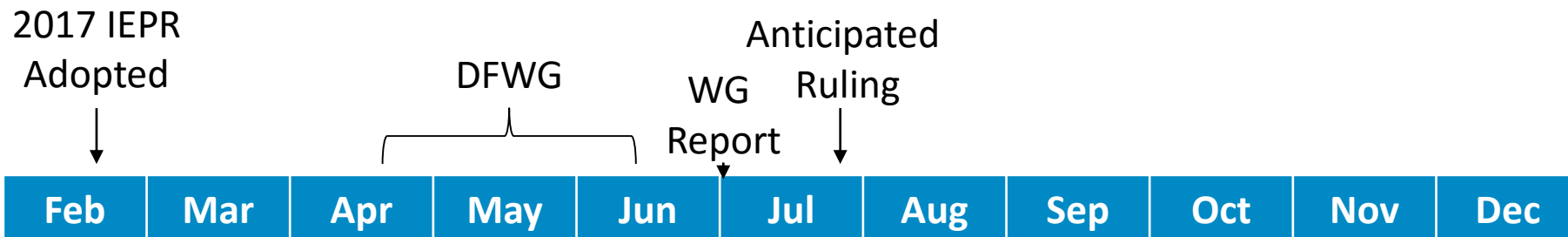
What is the purpose of DER disaggregation?

- Disaggregation is the process by which a system level forecast of DER for a given IOU service territory is allocated at the circuit level
- The goal of disaggregation methodologies is to identify, to the extent possible, where new DERs will be adopted
- Ultimately it comes down to predicting customer behavior, which is inherently uncertain
- The disaggregated values are used for distribution planning studies



DFWG Activities for the 2018-19 Planning Cycle

- The end goal of the disaggregation process is to disaggregate IEPR assumptions to the circuit level for use in the upcoming distribution planning cycle



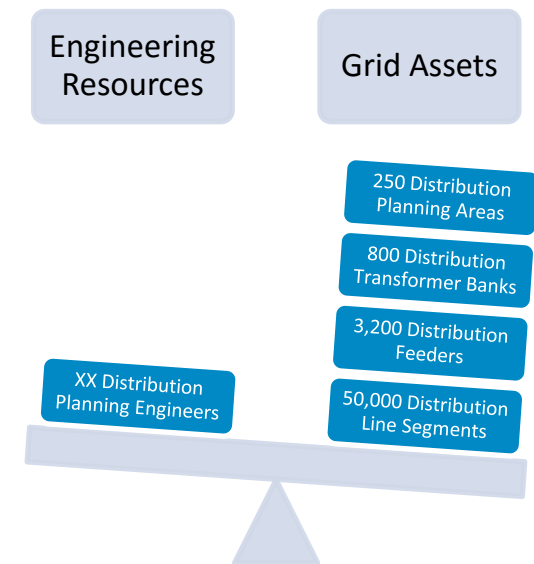
- The process for this year is set up to leverage best practices and additional data sets resulting from the Distribution Forecasting Working Group

The Role of Forecasts in Distribution Planning Studies

- The role of the distribution utility is to safely and reliably serve customers under both normal and abnormal circumstances.
- **Planning Case:** Reflects the load (1-10) and best estimate of how DERs will evolve and affect distribution system needs.
 - Load growth has longer history available and is highly correlated with population and economic forecasts
 - DER growth reflects individual customer decisions about adopting individual technologies
 - Each DER must be considered separately due to unique operational characteristics
 - DER's can either increase or decrease deficiencies
- The output of the planning case is a series of identified system deficiencies (presented in the Grid Needs Assessment)

The Purpose of Forecasts in Distribution Planning Studies

- The primary purpose of forecasting is to ensure that distribution deficiencies (i.e. capacity, reliability, hosting capacity, and power quality) are identified and addressed in a timely and efficient manner.
- Distribution planning area, bank, and circuit forecasts help identify the areas on the distribution grid where the electrical infrastructure may not be sufficient to safely and reliably serve projected local area loads under normal and abnormal conditions.
- 10 year forecasts of Load and DER must be included at the circuit level in order to address circuit level needs



List of DERs

- The Track 3 Decision orders the IOUs to use the 2017 IEPR for the upcoming distribution planning cycle
- The 2017 IEPR Forecast contains seven categories of DER

Type of DER	Priority	Rationale
Solar Photovoltaics (PV)	High	Longer history and large magnitude
Electric Vehicles (EV)		
Additional Achievable Energy Efficiency (AAEE)		
Load Modifying Demand Response (LMDR)	Mid	Limited history and/or limited magnitude
Energy Storage (ES)		
Additional Achievable Photovoltaics (AAPV)		
Other Private Generation (“Non-PV DG”)	Low/No model needed	Limited growth