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Distribution System Planning

Joseph Jacunski – Principal Manager Planning Process Coordination and Tools

Energy for What's Ahead℠

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Overview

- Review of how IEPR forecast is incorporated into Distribution System Planning
- How improvements to the distribution forecasting method help ensure distribution capacity is available when desired by new customers

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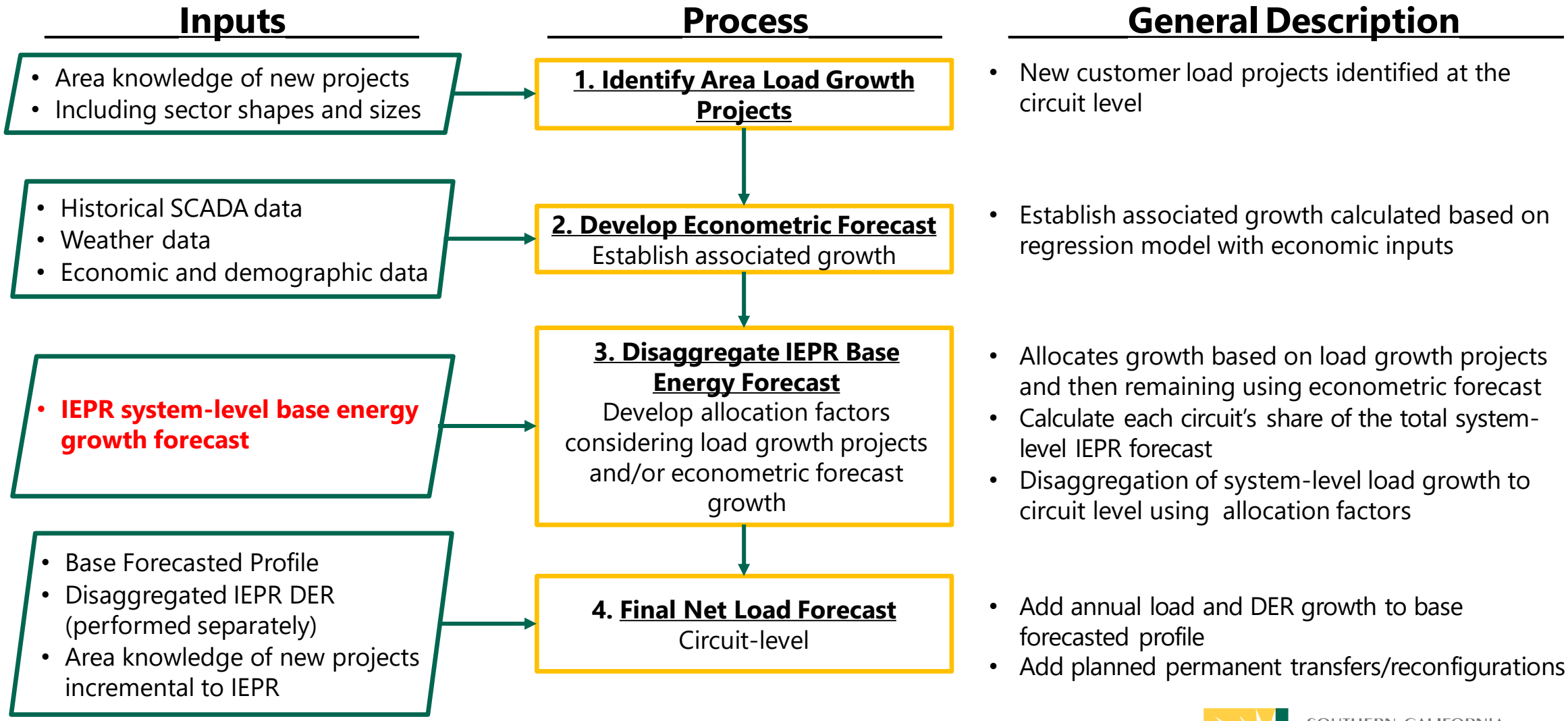
SCE's Overall Net Load Disaggregation Process



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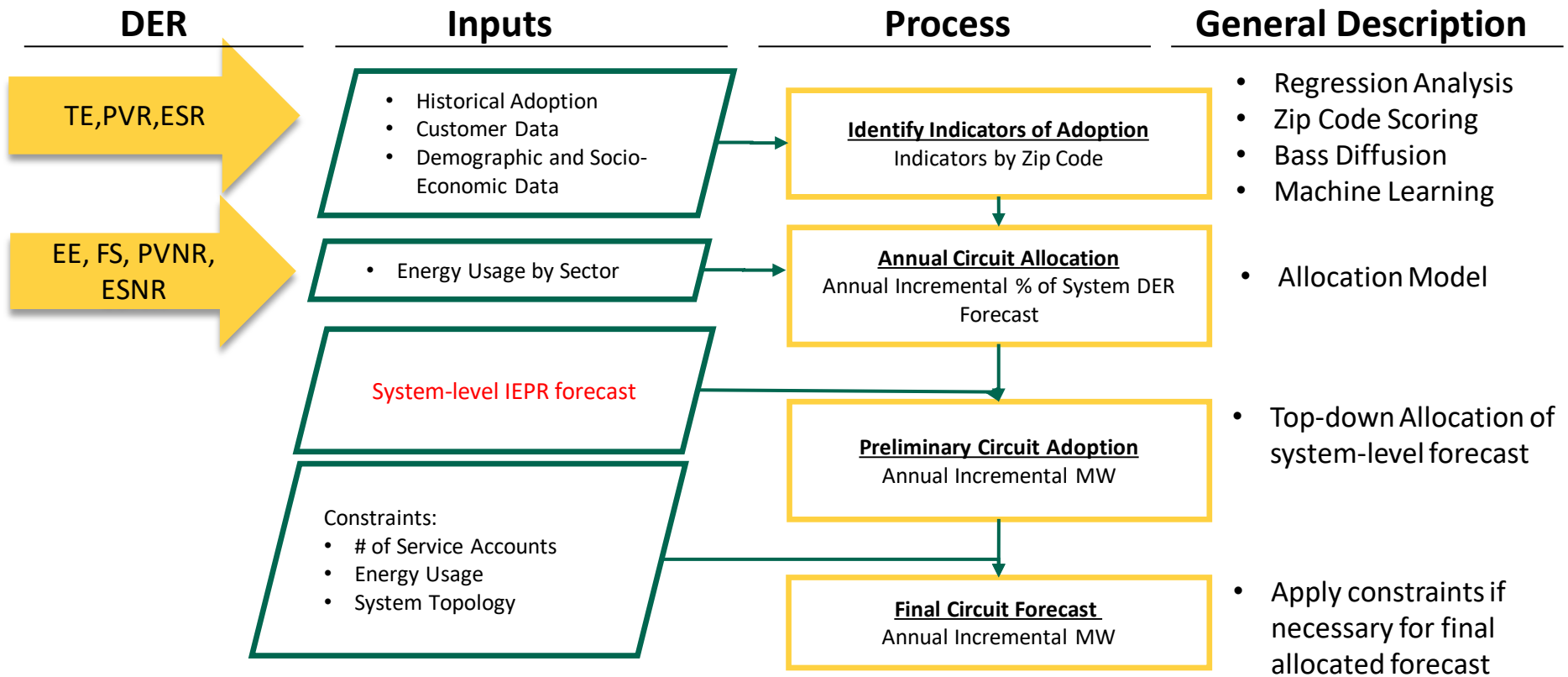
SCE's Overall DER Disaggregation Process



TE: Transportation Electrification includes both light duty and non-light duty EVs (Medium & Heavy duty, Bus, Forklift and Transport Refrigeration Units)
ESR: Energy Storage Residential
ESNR: Energy Storage NonResidential
EE: Energy Efficiency
PVR: Residential Solar PV
PVNR: Non-Residential Solar PV
FS: Fuel Substitution

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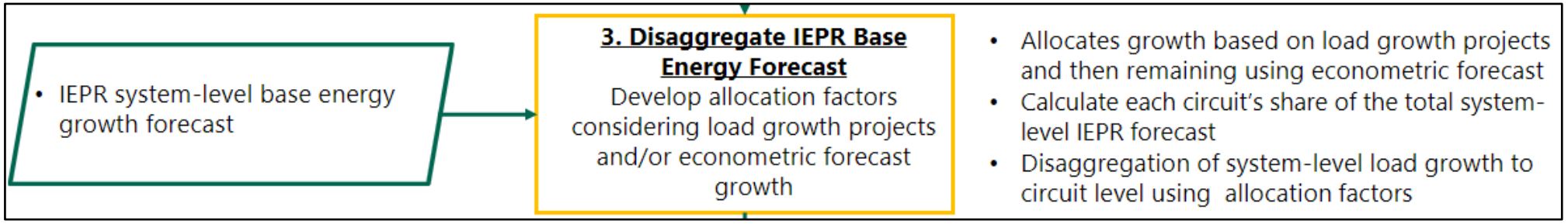
Embedded Load Growth Projects (LGPs) Considered within IEPR

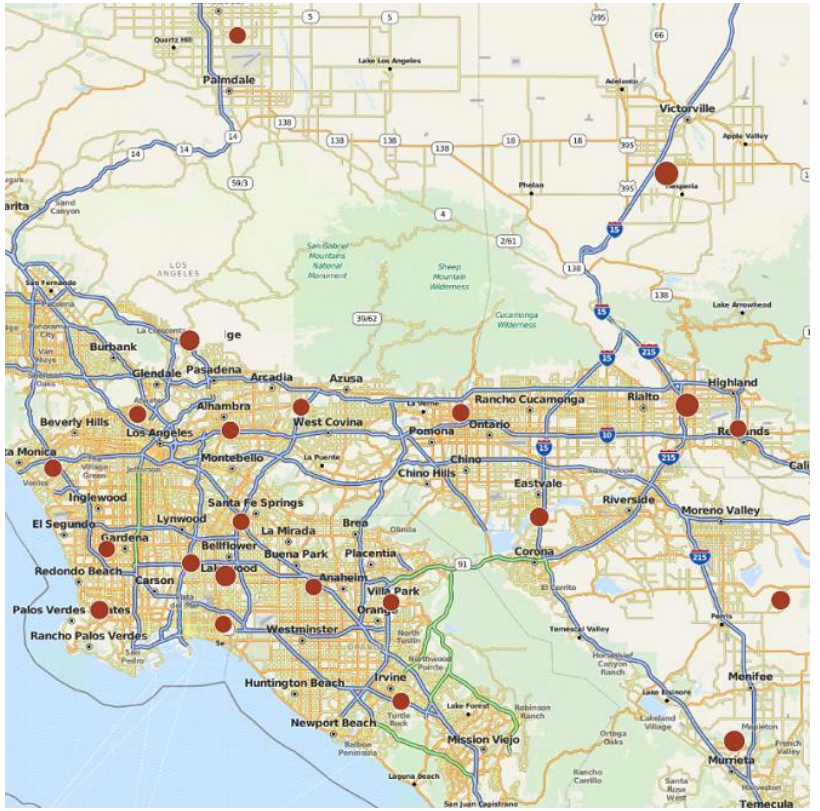
- Excerpt from 2024 Distribution Forecast Working Group



- Embedded Load Growth Profile Hierarchical Classification
  - Class (Agriculture, Commercial, Industrial, Residential)
    - Sector (multiple sectors associated with each class)

- Distribution planners work with customers and local planning offices to identify customer requests to serve new load growth

- SCE communicated with the CEC to categorize each load growth project as:
  - Fully reflected in the 2023 IEPR Update
  - Incremental to the 2023 IEPR Update
    - e.g. Commercial EV Chargers, Cultivation, Temporary Power, Load WDAT, Customer Substations



Geographical Illustration of Load Growth Projects

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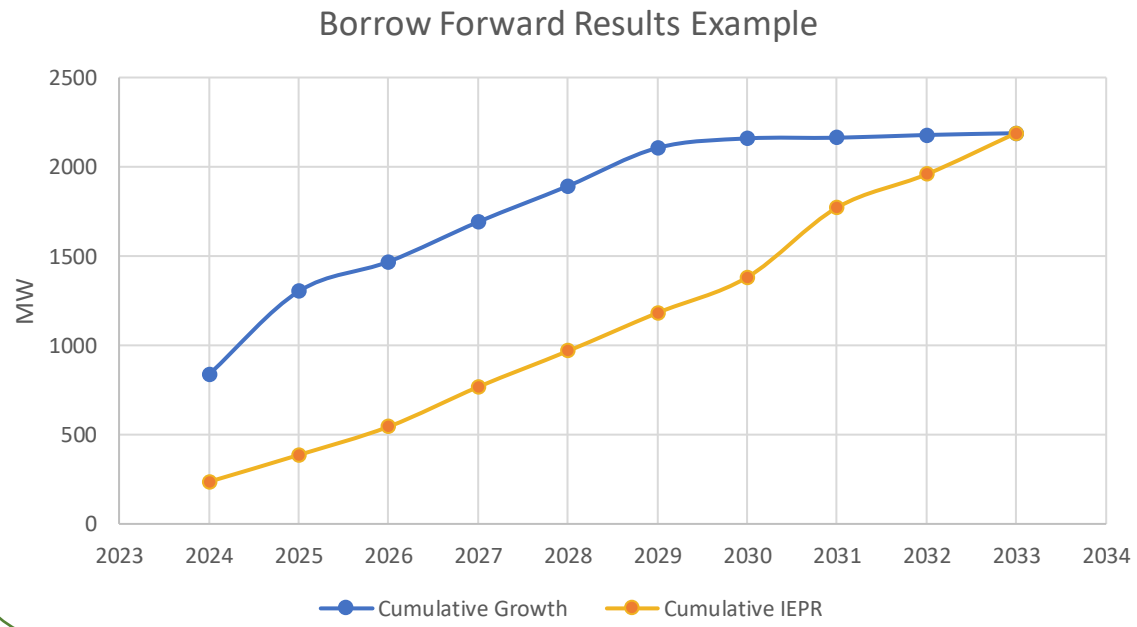
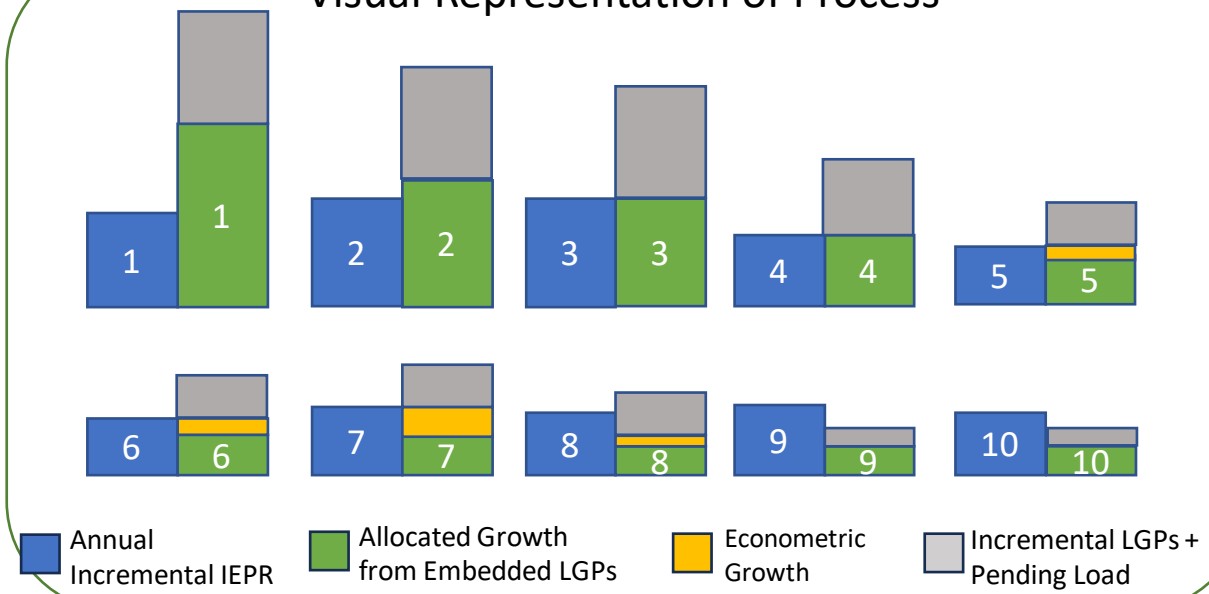
Borrow Forward One-Slider

Background

- 2017 Ruling by CPUC to use IEPR as the source of Load and DER Disaggregation
- 2018 – All LGPs (load Growth Projects) were reduced in their requested year to match annual incremental values of Load portion of IEPR. Significant reductions occurred in first year of forecast.
  - Annual Incremental = That years IEPR growth value
- 2019 – Implemented Whirlpool Method to roll embedded load that was above IEPR to later years while matching annual incremental values of IEPR.
  - Incremental LGPs are not impacted by Whirlpool and are only modified by DF, Shape, and Peaktime but are allocated in the year requested
- 2019 to 2023 – LGPs from customers have increased 2.5x and Whirlpool has been rolling load to later in the plan
- 2024 – Change the IEPR Allocation from Whirlpool to Borrow Forward



Visual Representation of Process



Pro:

- Allocates growth based on customer requests
- Leverages the IEPR as required but shifts from annual incremental allocation to total sum allocation
- Shows needs earlier in the plan to meet increased needs

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Take aways

- Distribution System Planning (DSP) will ensure the grid is ready to support widespread electrification and decarbonization through significant growth and expansion of the electric system to meet customers' growing and changing needs.

- DSP is preparing the grid in the short term by proactively building out grid infrastructure using IEPR and customer requests. Bringing in customers and fleets into the electrification process early and executing the Power Service Availability (PSA*) initiative to align grid expansion with demand.
  - *Improve processes and tools, moving towards a "one-stop shop" approach for service requests.

- Well managed Distribution System Plan requires flexibility and efficiency to balance meet customers' needs today and, in the future, while keeping affordability top of mind.

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