

# Distribution System Planning



Power Sector Transformation Discussion  
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# Distribution System Planning: Purpose

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- Develop electric system plans that ensure safe and reliable service to customers at a reasonable cost.



# Planning Considerations

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System  
Factors

## Capacity

- Peak Loading - Normal Conditions
- Contingency Loading Scenarios
- Reverse Powerflow

## Reliability

- Frequency of Interruption
- Duration of Interruption
- Protection Coordination

## Asset Condition

- Just-in-time Proactive Replacement
- Risk Based Management
- Safety

## Resilience

- Storm Resiliency
- Flood Resiliency
- Climate Change

## Voltage & Power Factor

- Voltage Performance & Optimization
- Power Factor Performance

Solution  
Factors

## Operability

- Standard Equipment & Procedures
- Systems Integration
- Skills & Training

## Cost

- Installation
- Operation & Maintenance

## Schedule

- Lead Time
- Longevity

## Project Synergies

- Project Implementation
- Emerging Technologies

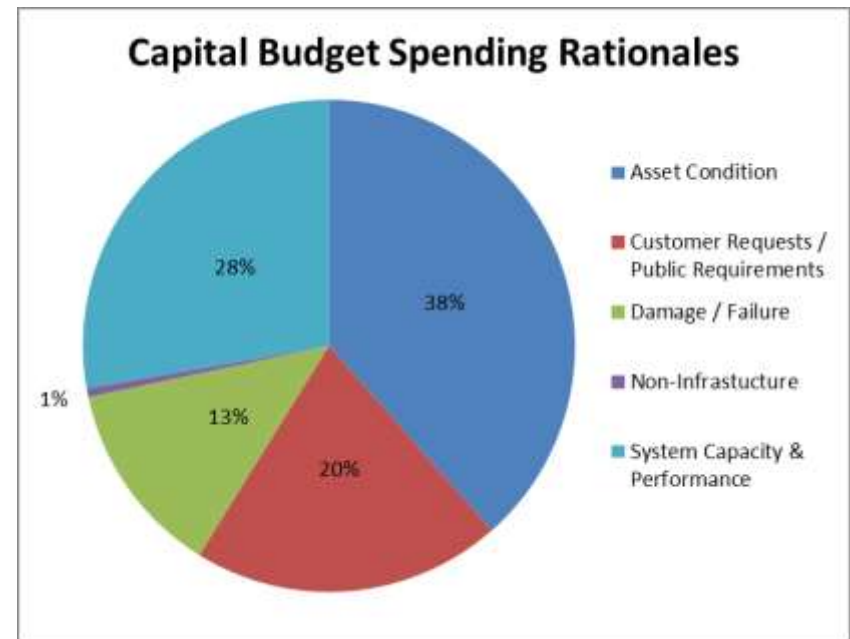


# From Planning to Projects

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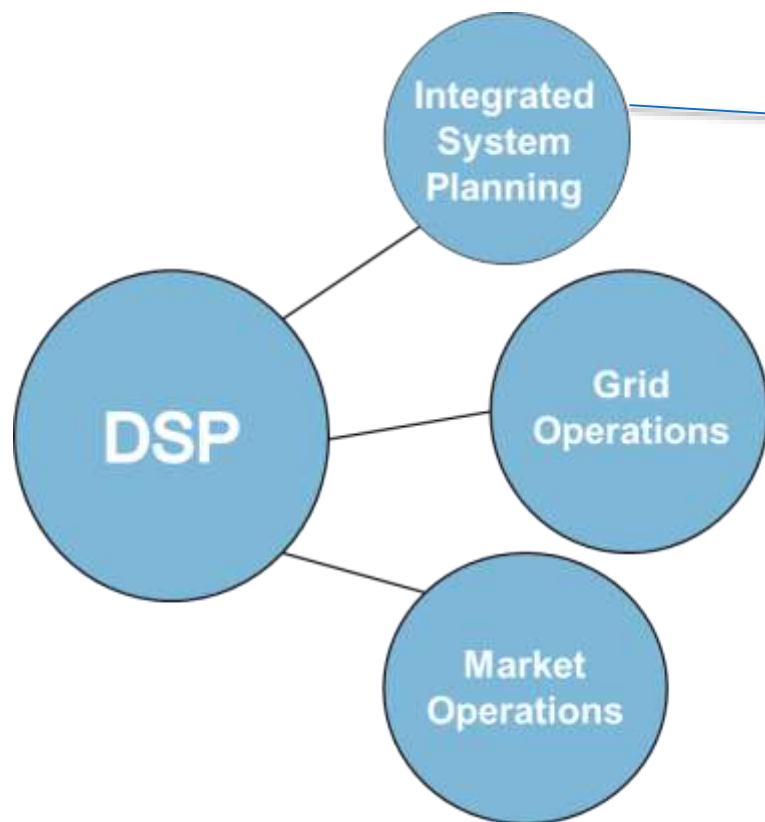
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- Smaller lower cost actions are utilized to defer major projects.
- A risk based prioritization matrix is used in developing the capital budget.
- The Company's capital budget is categorized by a project's primary driver.
- Many projects will address multiple area needs.



System Capacity & Performance drivers include load growth, contingency response, and reliability improvement

DSP = Distributed System Platform



- The utilities have been assigned the role of DSP provider to ensure that safe and reliable service is maintained through the efficient management of an increasingly complex system.
- Integrating DER with Distribution System Planning is one of the primary areas evolving as part of the Reforming the Energy Vision (REV) proceedings.
  - Efficiency of DER interconnections
  - Integrated Load and DER forecasting
  - New planning tools and processes
  - Non-wires Alternative Suitability

## “Work in Progress”

### ➤ Purpose

- ◆ Increase the transparency of system planning
- ◆ Help identify potential DER/Non-wire Alternatives (NWA) opportunities

### ➤ Concepts

- ◆ Geographic representation of areas of the distribution system that are approaching planning thresholds
- ◆ Starting with loading and voltage constraints
- ◆ Neighborhood level details
- ◆ Evolve, refine, and advance the discussion

