



# INTEGRATION OF ECONOMIC AND RELIABILITY PLANNING

JULIANO FREITAS

SPP, GENERATION INTERCONNECTION  
MANAGER

*Helping our members work together to keep  
the lights on... today and in the future.*



SouthwestPowerPool



SPPorg



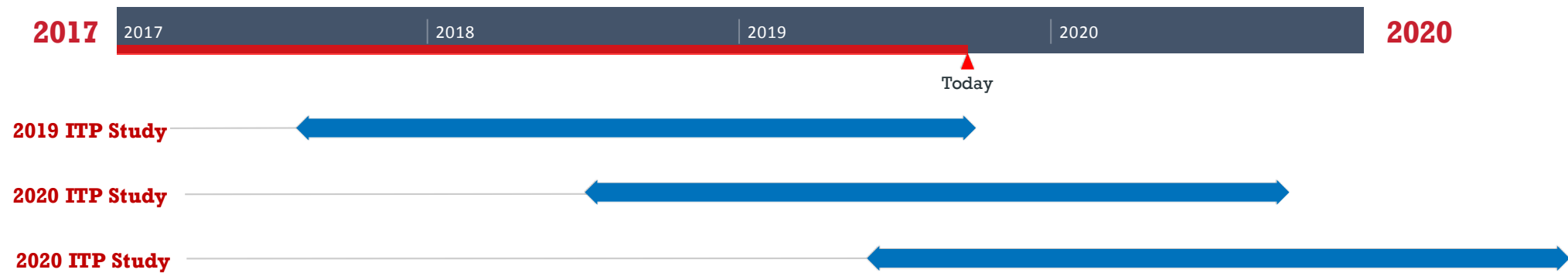
southwest-power-pool

# INTEGRATED TRANSMISSION PLAN (ITP) ASSESSMENT

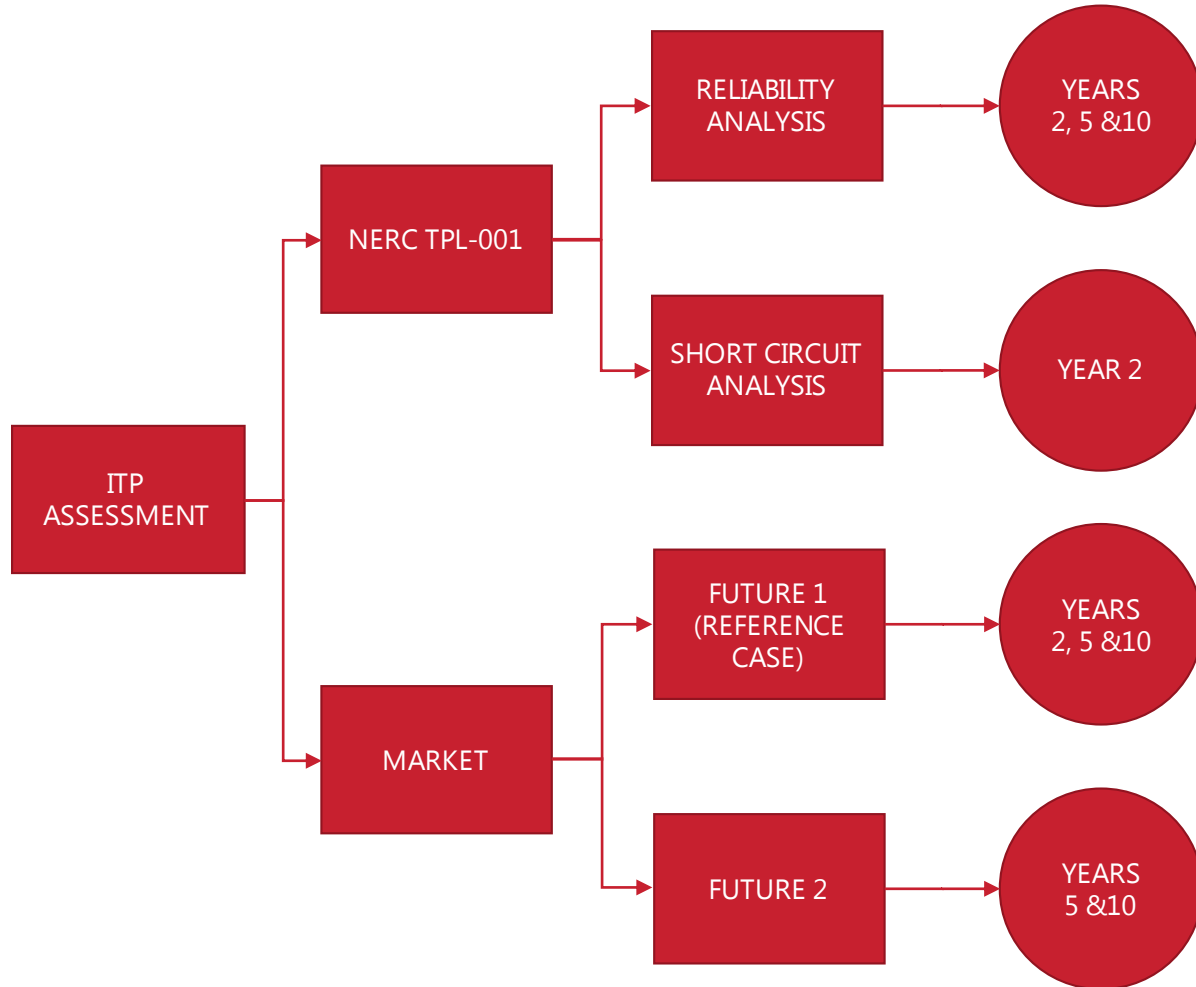
# INTEGRATED TRANSMISSION PLAN (ITP)

- The ITP assessment is a regional planning process built to leverage knowledge of the transmission system's reliability, public policy, operational, and economic needs, as well as compliance, generator interconnection, and transmission service request impacts to develop a cost-effective transmission portfolio over a 10-year planning horizon

# INTEGRATED TRANSMISSION PLAN TIMELINE



# INTEGRATED TRANSMISSION PLAN STRUCTURE



Description	Year 2	Year 5	Year 10	Total
<b>Base Reliability</b>	Summer Winter Light Load Non-coincident Peak (3)	Summer Winter Light Load Non-coincident Peak (3)	Summer Winter Light Load Non-coincident Peak (3)	9
<b>Market Economic Model</b>	One Future (1)	Each Future (1-3)	Each Future (1-3)	3-7
<b>Market Powerflow Model</b>	One Future's Peak and Off-Peak (2)	Each Futures' Peak and Off-Peak (2-6)	Each Futures' Peak and Off-Peak (2-6)	6-14

# RELIABILITY NEEDS ASSESSMENT

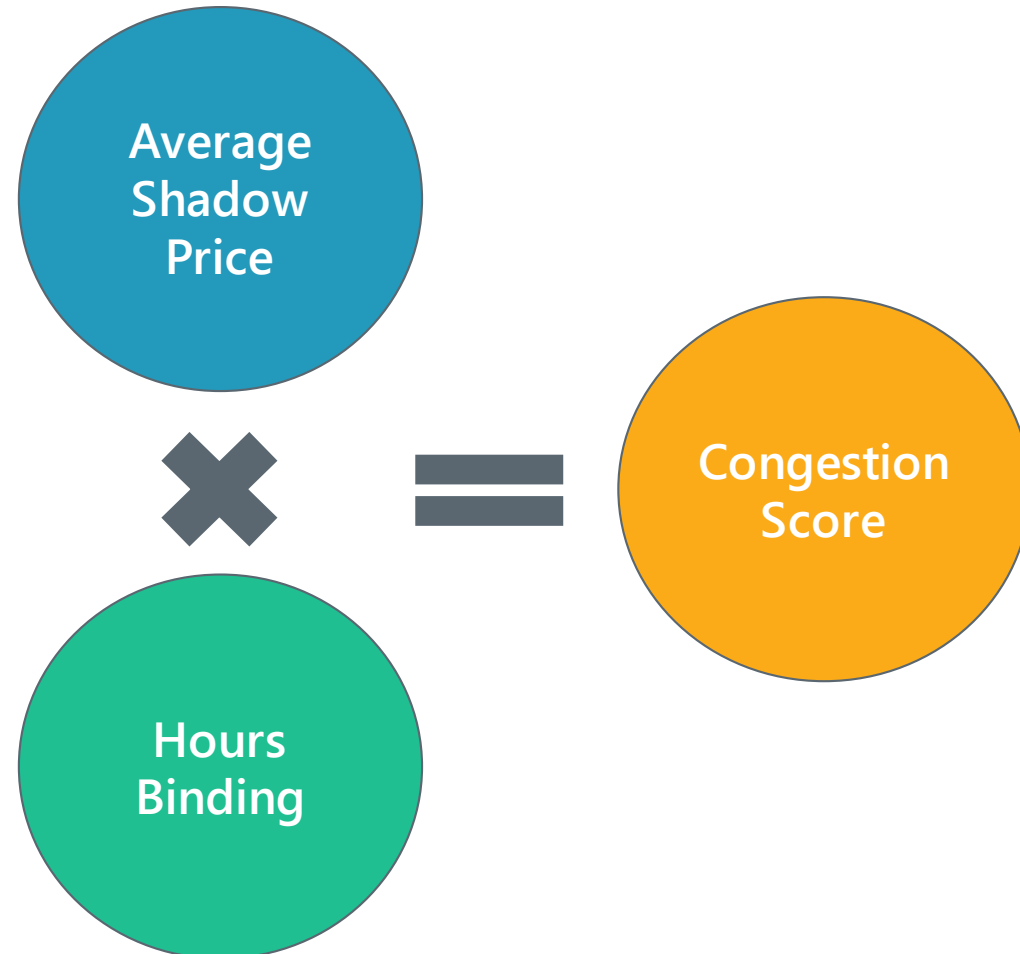
- Performed N-1 contingency analysis during summer peak, winter peak, light load conditions
- Evaluated system performance against SPP and local planning criteria and applicable NERC standards
  - Measured thermal, voltage and short circuit

# OPERATIONAL NEEDS ASSESSMENT

- Economic related
  - Frequently congested flowgates
- Reliability related
  - High or low voltage
  - Thermal loading issues

# ECONOMIC NEEDS ASSESSMENT

1. Rank constraints by economic need criteria
2. Constraints that meet congestion score & other criteria are identified as economic needs
3. Consider constraints that don't meet criteria for possible inclusion





# DETAILED PROJECT PROPOSAL (DPP) PROCESS

- 30-Day window in which SPP stakeholders can submit solutions to systems needs identified during the needs assessment
- Solutions to the posted needs may include transmission solutions, model adjustments, operating guides, and non-transmission solutions
- SPP may develop solutions internally to mitigate needs.

# PROJECT SELECTION OBJECTIVE



- Maintain reliability
- Comply with standards



- Enable affordable delivery of low-cost generation
- Address congestion, improving market for buyers and sellers
- Provide ratepayer benefits

 **Reliability projects** +

 **Economic projects** =

 **Optimal grid performance**

# PROJECT SELECTION OBJECTIVE

