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SPP's Regional Transmission Planning Process

EIPC-EISPC Webinar

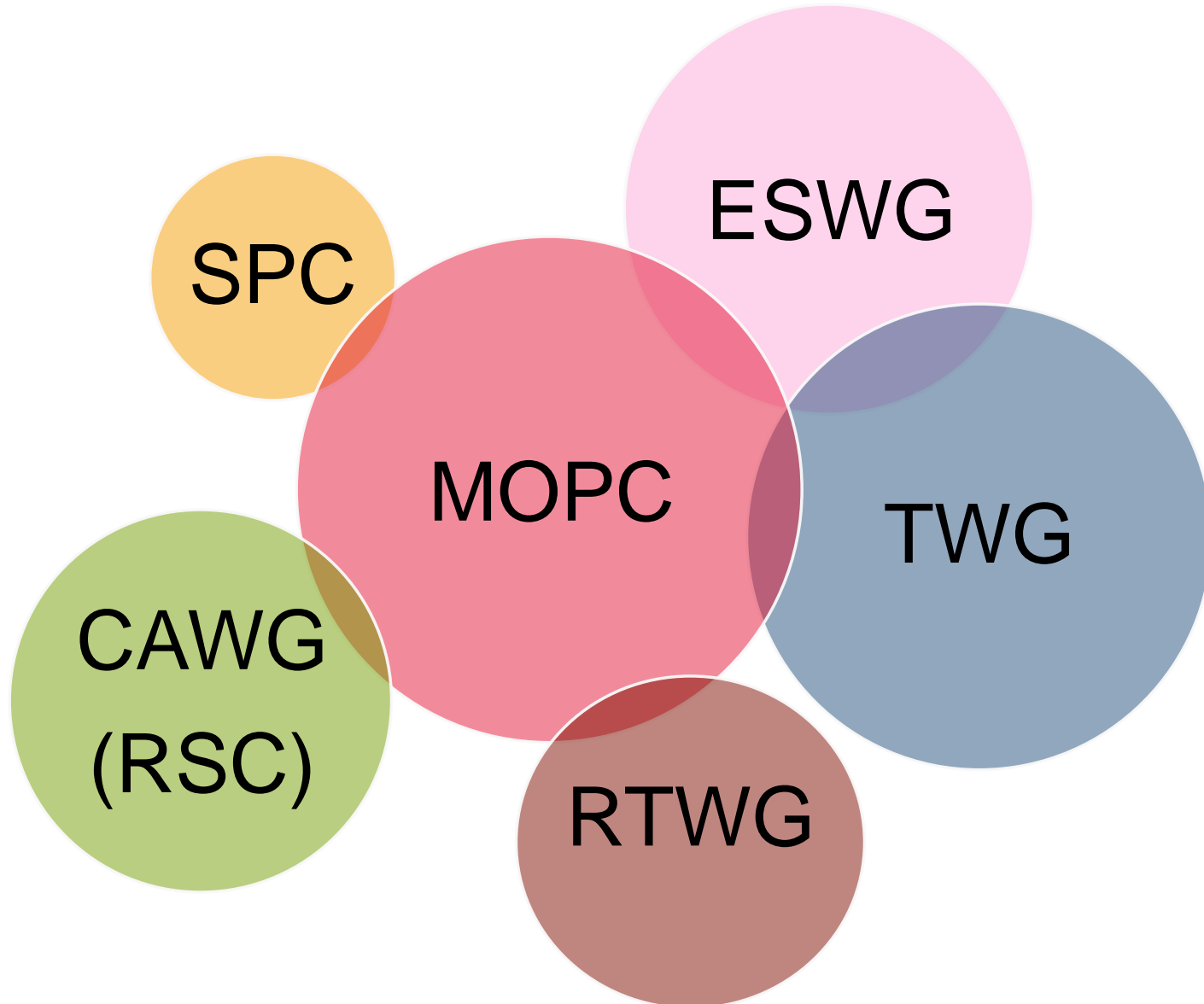
November 3, 2016

Transmission Planning Challenges

- **Compliance with reliability standards**
- **Future federal and state energy policies**
- **Load growth patterns and locations**
- **Resource portfolio changes**
- **Fuel supply and prices**
- **New grid technologies**
- **Cost recovery barriers for seams projects**
- **Transmission expansion rate impacts**
- **Coordination of multiple planning objectives**



Stakeholder Driven Approach



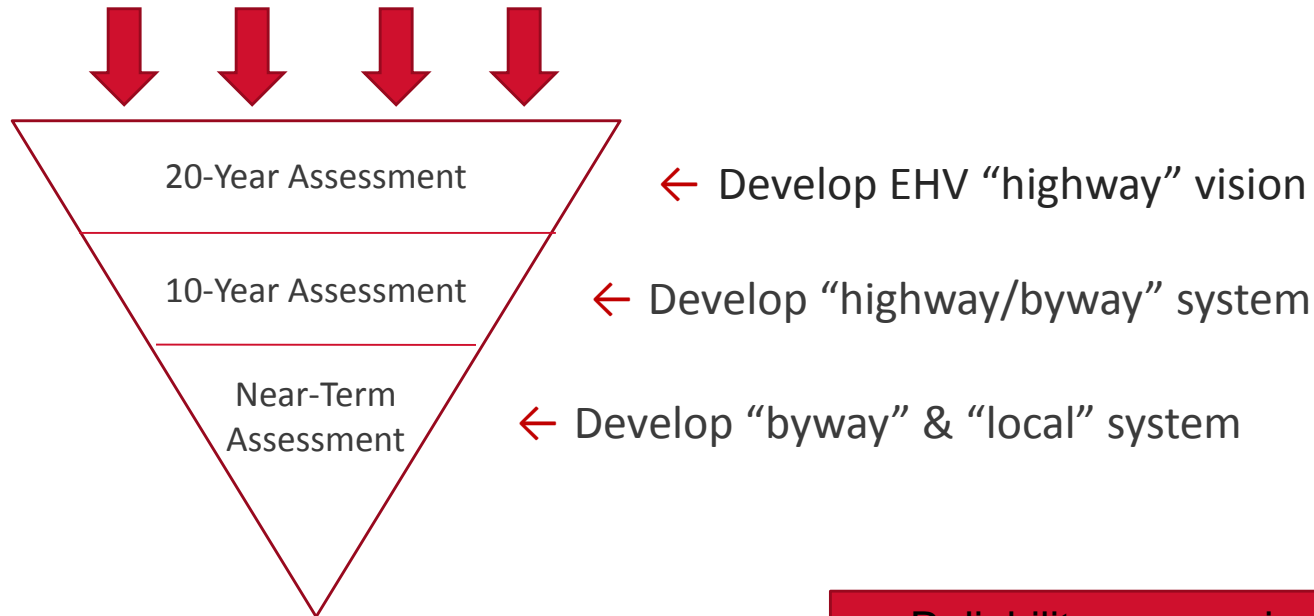


Integrated Transmission Planning (ITP)

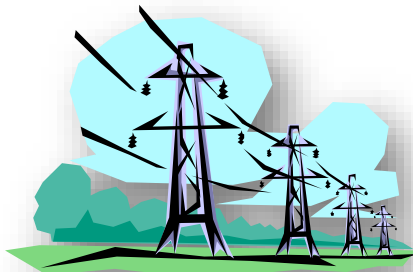
- Attachment O



Conceptual



Implementation



- Reliability, economic and public policy needs are evaluated in the 20 and 10-year assessments
- Reliability needs are evaluated in the near-term assessment



ITP Cycle

Year 1	Year 2	Year 3
Near-term	Near-term	Near-term
20-year		10-year

ITP-20



- 20-year horizon
- 300 kV and above solutions
- Provides roadmap for future
- Analyzes diverse future scenarios
- Provides a versatile transmission solution
- Meets Reliability, Economic, and Public Policy goals
- Improve access to markets and interconnections
- No NTCs issued

ITP-10



- 10-year horizon
- 100 kV and above solutions
- Determines staging for upgrades
- Meets Reliability, Economic, and Public Policy goals
 - Address potential NERC reliability criteria violations
 - Mitigate congestion
 - Improve access to markets and interconnections
- Narrower focus than ITP20
- Increased focus on underlying transmission system
- NTCs issued





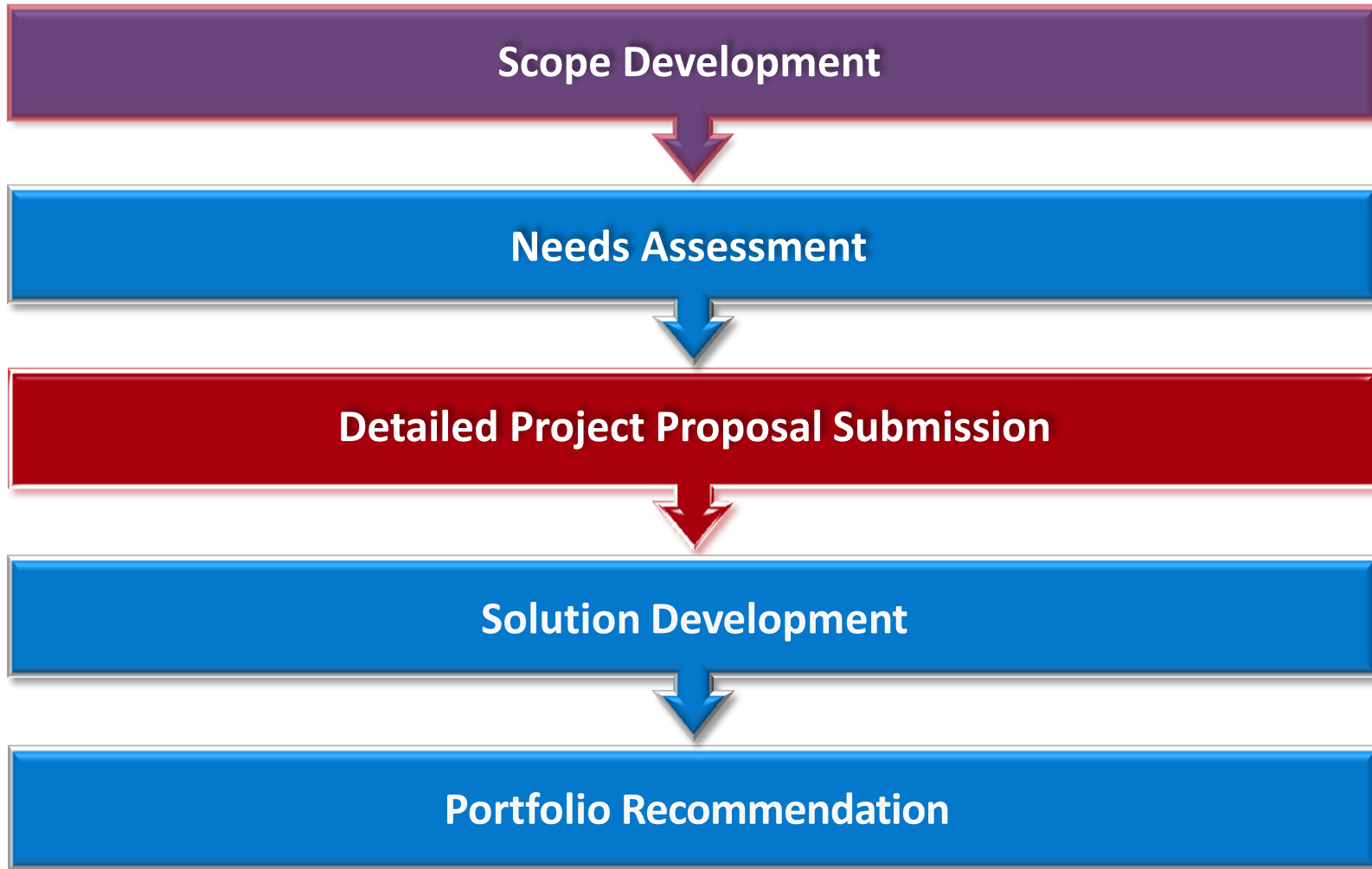
ITP Near Term




- Up to 6-year horizon
- 69 kV and above solutions
- Analyzes immediate transmission needs
- Preserve grid reliability
- Meet compliance requirements
 - NERC Reliability Standards
 - SPP and local criteria
- Maintain integrity of sold firm transmission service
- Bridge the gap between current and longer term system needs
- NTCs issued




ITP Process Components



Performed by:

 Staff

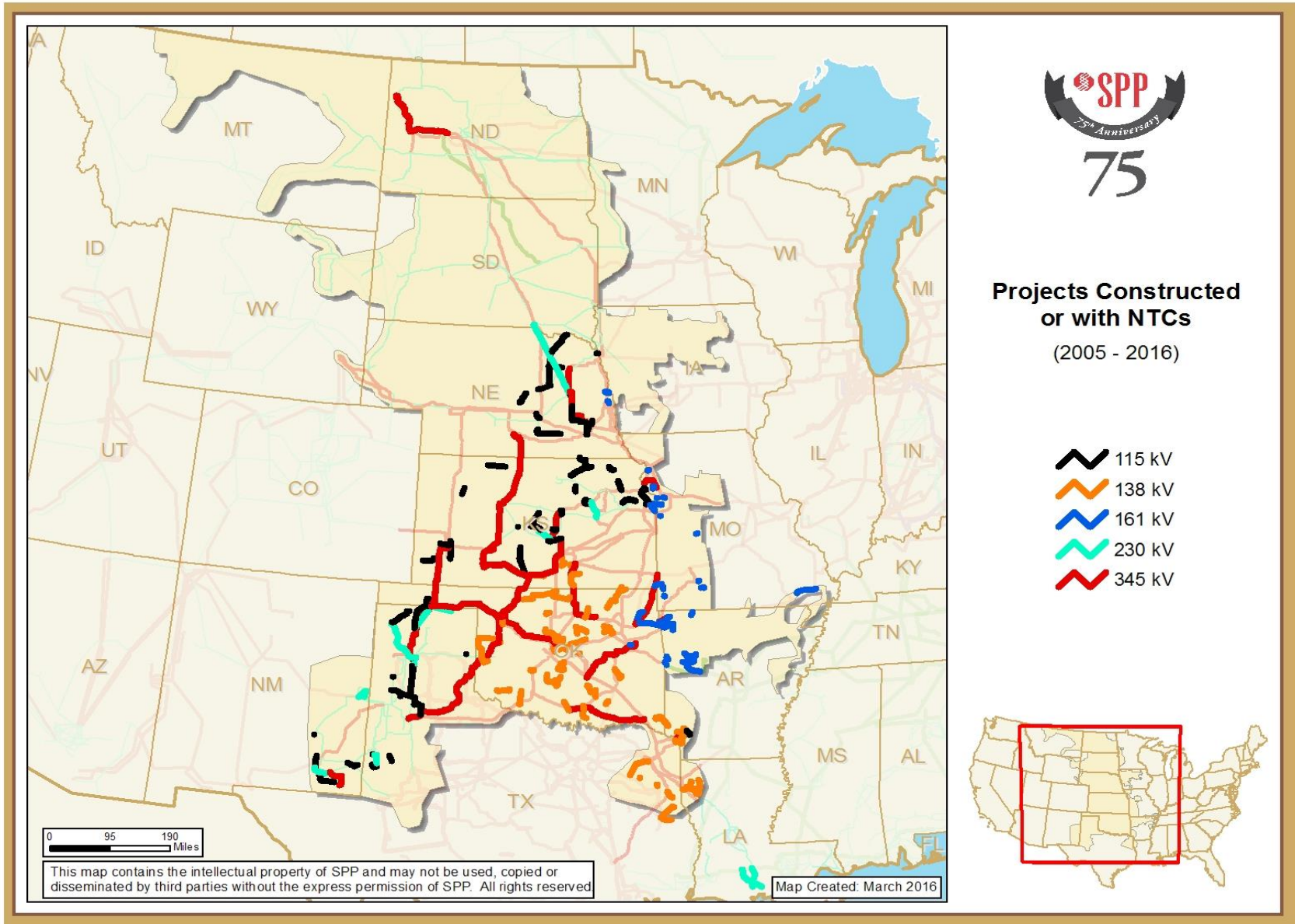
 Stakeholders

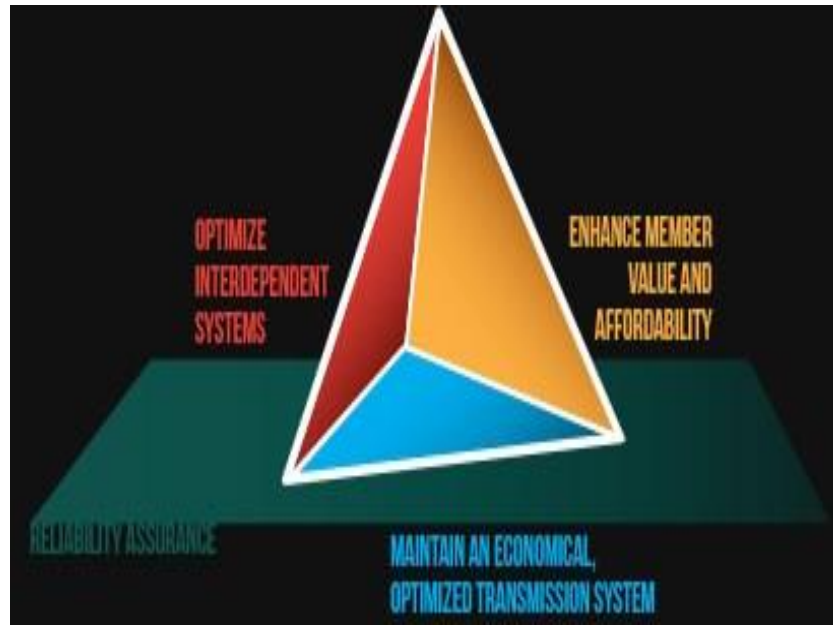
 Staff and Stakeholders



SPP TRANSMISSION EXPANSION STATUS

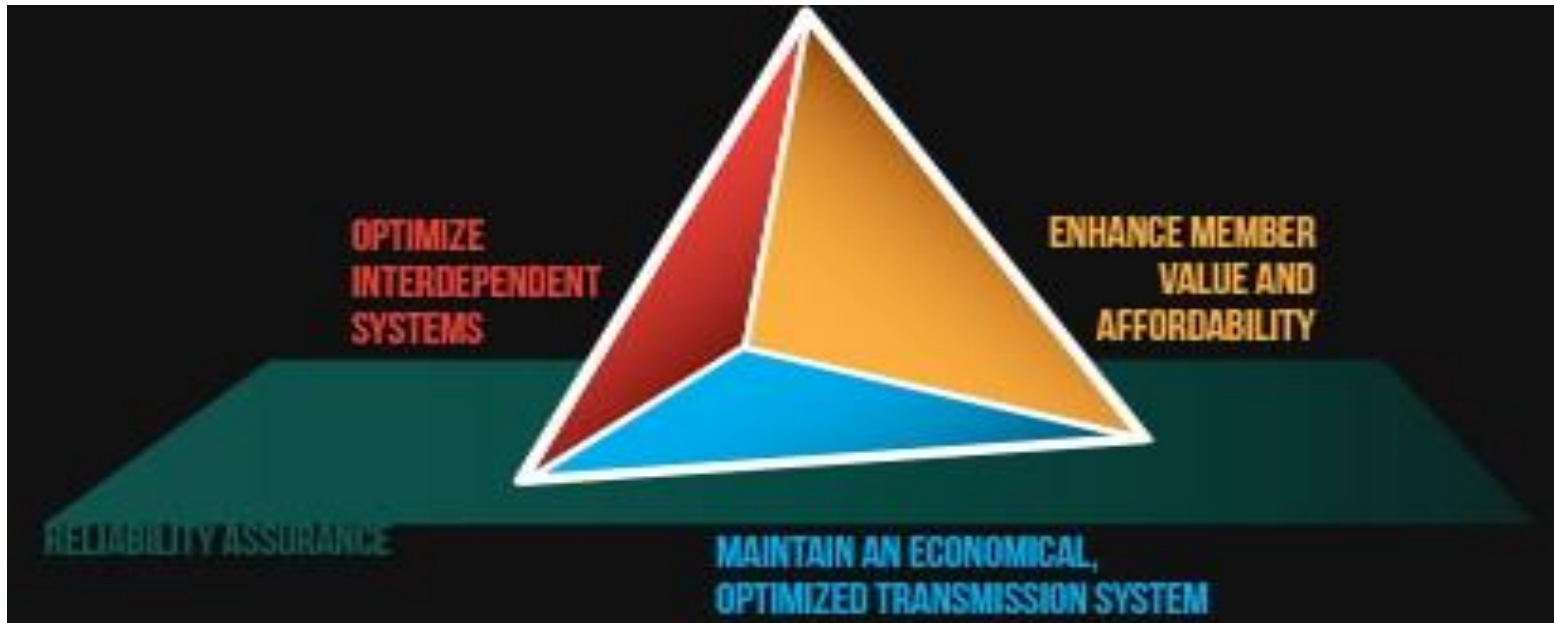
Transmission Expansion in SPP Over the Last Decade



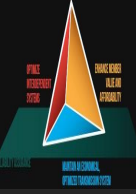


FUTURE OF ITP

SPP Strategic Plan

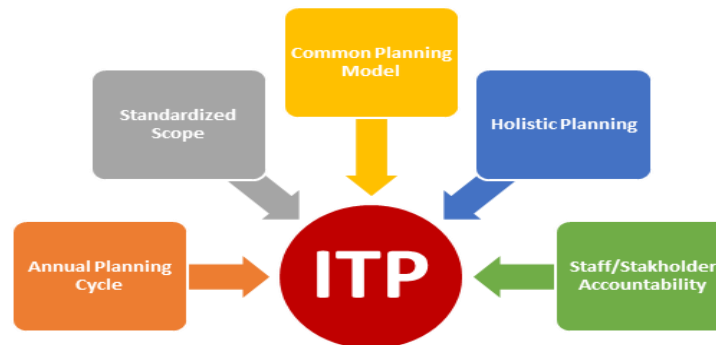


- **Maintain an Economical, Optimized Transmission System**
 - **Integrated Transmission Planning Check and Adjust**
 - **Cost Controls on Competitive Transmission**
 - **Flexibility to Address Policy Initiatives**
 - **Value Pricing: Import/Export Strategy, and Cost Allocation**
 - **Fair and Equitable Cost/Benefit Allocation Policies**



Recommendations

- Implement annual ITP 10-year planning assessment process
- Develop standardized study scope
- Establish a common reliability planning model
- Utilize a holistic approach to planning
- Create a Staff/Stakeholder accountability program



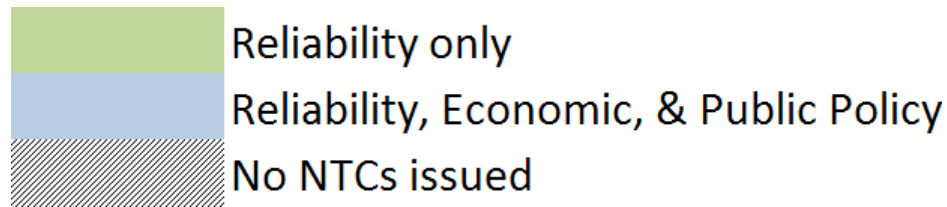
SPP 3-Year Planning Cycle Assessments

Current ITP Process

Year 1	Year 2	Year 3
Near-term	Near-term	Near-term
20-year		10-year

New ITP Process

Year 1	Year 2	Year 3
10-year	10-year	10-year



Note: with the new planning process, a 20-year assessment will be performed no less than once every five years. The performance of the 20-year study is not captured above.

Comparison Between Old and New ITP

	ITP (new)	ITPNT	ITP10	ITP20
Year 2 Reliability Assessment	✘	✘		
Year 5 Reliability Assessment	✘	✘		
Year 10 Reliability Assessment	✘		✘	
Year 2 Economic Assessment	✘			
Year 5 Economic Assessment	✘			
Year 10 Economic Assessment	✘		✘	
Year 20 Economic Assessment	✘			✘
Incorporates TPL-001-4 Assessments	✘ ⁺	✘ [*]		
12-month study cycle	✘	✘		
NTCs issued for projects	✘	✘	✘	
Incorporates Operational Assessments	✘			

*2017 ITPNT is the first study to incorporate TPL events for non-consequential load loss.

⁺TPL-001-4 Assessments include the Short Circuit and portions of the Steady State Assessments. The TPL-001-4 Stability Study will be performed outside of the new ITP planning cycle.

Transition

- **Tariff and Governing Document Revisions**
 - Complete by April 2017
- **Current Planning Process**
 - 2017 ITP10 – January 2017
 - 2017 ITPNT – April 2017
 - 2018 ITPNT – April 2018
- **New Planning Process**
 - 2019 ITP Planning Cycle
 - Process starts in September 2017 with model build and completes in October 2019