



Reliability Imperative: Transmission Evolution

System Planning Committee
of the Board of Directors

September 16, 2025

Executive Summary



- Meeting the needs of the Reliability Imperative involves several initiatives, including supporting approved transmission, coordinating with neighboring regions, and refining processes for the next stage of Long Range Transmission Planning (LRTP)
- MISO is addressing approved projects through selecting competitive developers for Tranche 2.1 and supporting regulatory permitting for both tranches
- MISO will continue to work with stakeholders to ensure study approaches meet the emerging system needs, including interregional studies with PJM and SPP and in the next phase of LRTP analysis

Most Tranche 1 projects are progressing through regulatory processes

Regionally Cost Allocated Project Reporting Analysis

Tranche 1 / Multi-Value Projects

#	Project Name	State	Estimated In Service Date		Status		Cost		Explanation
			MTEP Approved	Current Date	State Regulatory Status	Const.	MTEP Approved (2022\$; M)	Current Cost (2022\$; unless noted)	
1	Jamestown - Ellendale	ND	2028	2028	●		\$439	\$439	
2	Big Stone South - Alexandria - Big Oaks	SD/MN	2030	2030	◐		\$574	\$574	
3	Iron Range - Benton County - Big Oaks	MN	2030	2030	●		\$970	\$1390	Cost change under review; variance analysis will be initiated if required
4	Wilmarth - North Rochester - Tremval	MN/WI	2028	2028	◐		\$689	\$686*	
5	Tremval - Eau Clair - Jump River	WI	2028	2028	◐		\$505	\$505	
6	Tremval - Rocky Run - Columbia	WI	2029	2029	◐		\$1,050	\$1,050	
7	Webster - Franklin - Marshalltown - Morgan Valley	IA	2028	2028	◐		\$755	\$755	
8	Beverly - Sub 92	IA	2028	2028	○		\$231	\$231	
9	Orient - Denny - Fairport	IA/MO	2030	2030	◐		\$390	\$307*	
10	Denny - Zachary - Thomas Hill - Maywood	MO	2030	2030	◐		\$769	\$506*	
11	Maywood - Meredosia	MO/IL	2028	2028	◐		\$301	\$301	
12	Madison - Ottumwa - Skunk River	IA	2029	2029	○		\$673	\$673	
13	Skunk River - Ipava	IA/IL	2029	2029	◐		\$594	\$592*	
14	Ipava - Maple Ridge - Tazewell - Brokaw - Paxton East	IL	2028	2028	◐		\$572	\$572	
15	Sidney - Paxton East - Gilman South - Morrison Ditch	IL/IN	2029	2029	◐		\$454	\$516*	
16	Morrison Ditch - Reynolds - Burr Oak - Leesburg - Hiple	IN	2029	2029	●		\$261	\$675*	Cost change under variance analysis review
17	Hiple - Duck Lake	IN/MI	2030	2030	◐		\$696	\$520*	
18	Oneida - Nelson Rd.	MI	2029	2029	◐		\$403	\$403	

State Regulatory Status Indicator Scale

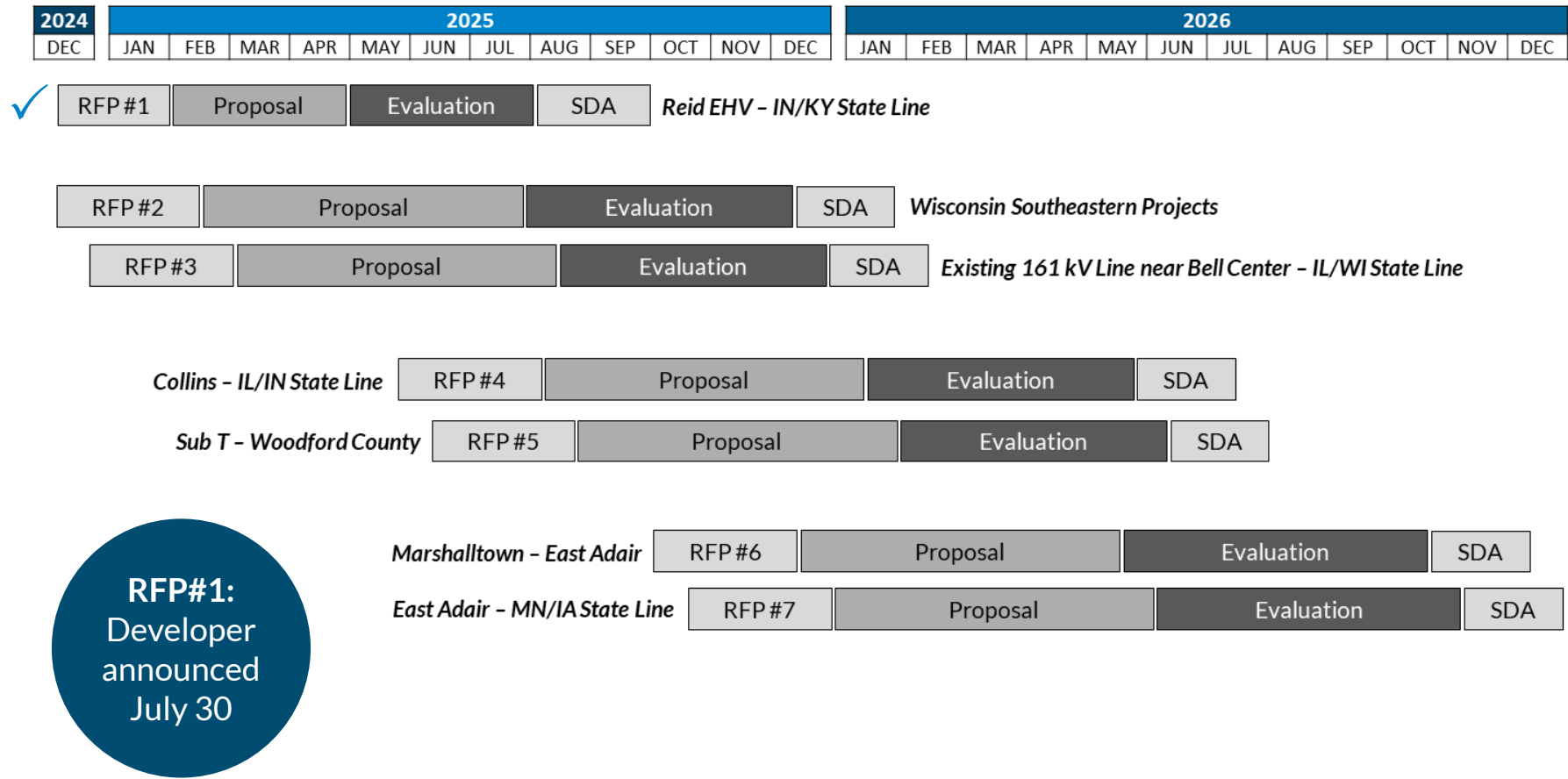
- Pending
- ◐ In regulatory process or partially complete
- Regulatory process for need complete or no regulatory process requirements

Total	\$10,324	\$10,693
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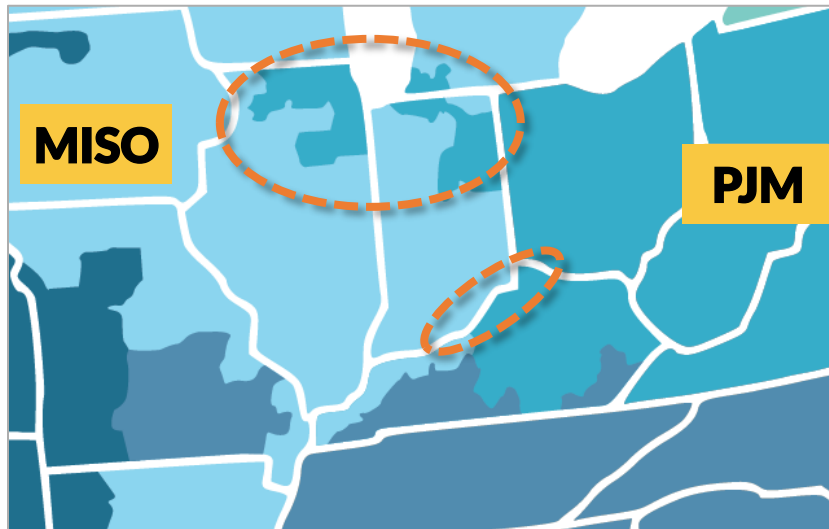
*Some or all facilities reported in nominal (year of occurrence) dollars

Status as of June 30, 2025

MISO is selecting Tranche 2.1 developers through the Competitive Transmission process



The PJM-MISO study identified potential solutions to address reliability, transfer and economic needs; discussions will focus on next steps, including potential process enhancements

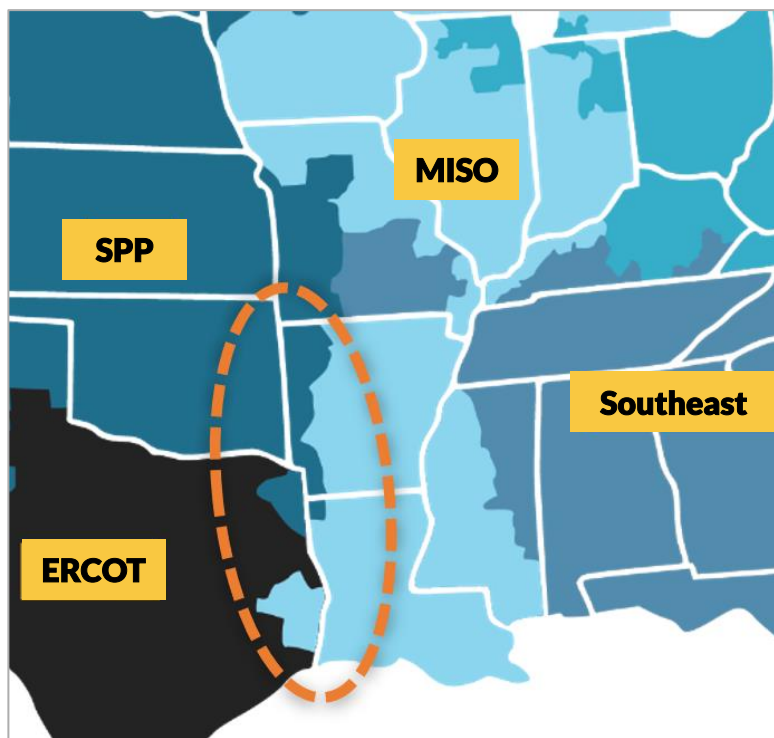


MISO Central and PJM West Regions

-
- | | |
|---------------------------|---|
| ✓ Q1 2024 | Study kick-off |
| ✓ Nov 2024 | Study update to stakeholders |
| ✓ March 2025 | Share initial results |
| ✓ May 2025 | Solicit and develop solutions options |
| ✓ June 2025 | Present potential solutions |
| 2 nd Half 2025 | Joint stakeholder discussions on next steps begin |
-

Subsequent steps will expand upon results and incorporate OMS and OPSI feedback

The SPP-MISO study is progressing with a more comprehensive and forward-looking approach than prior Coordinated System Planning collaborations between the two RTOs



MISO and SPP South Regions

-
- | | |
|------------------|--|
| ✓ Dec 2024 | Final scope review |
| ✓ May 2025 | Finalize blended models |
| ✓ Q3 2025 | Share initial results and stakeholder feedback request |
| Q4 2025 | Present potential solutions |
| Q4 2025/
2026 | Joint stakeholder discussions on final solutions begin |
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MISO and SPP are considering a FERC filing to amend the JOA and allow projects with multiple benefits

MISO adjusted the timeline for the Futures to account for policy changes, moving completion to early 2026



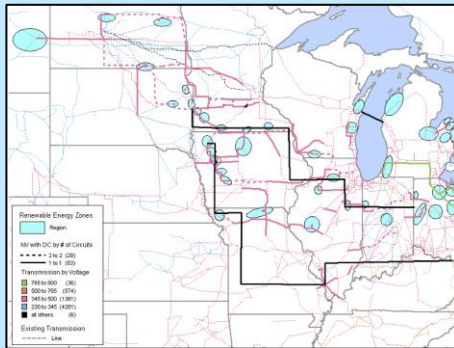
Next Steps

- ❑ **Re-run resource expansion to account for OBBBA modifications**, which rescind IRA tax credits for wind and solar
- ❑ **Incorporate new Direct Loss of Load (DLOL) resource accreditation and energy adequacy**
- ❑ **Include potential sites for generation resources** with input from stakeholders

MTEP26 Midwest LRTP builds on an extensive foundation of prior studies and stakeholder engagement

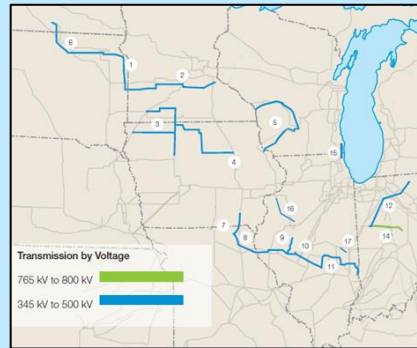
Midwest Studies

2008–2010



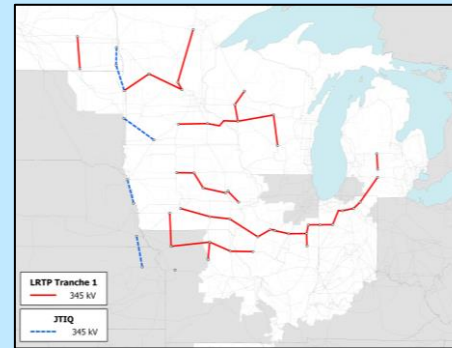
Regional Generation Outlet Study

2011



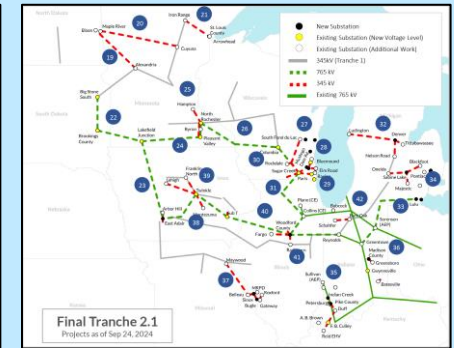
Multi-Value Project Portfolio (MTEP11)

2020–2022



Tranche 1 (MTEP21)

2022–2024



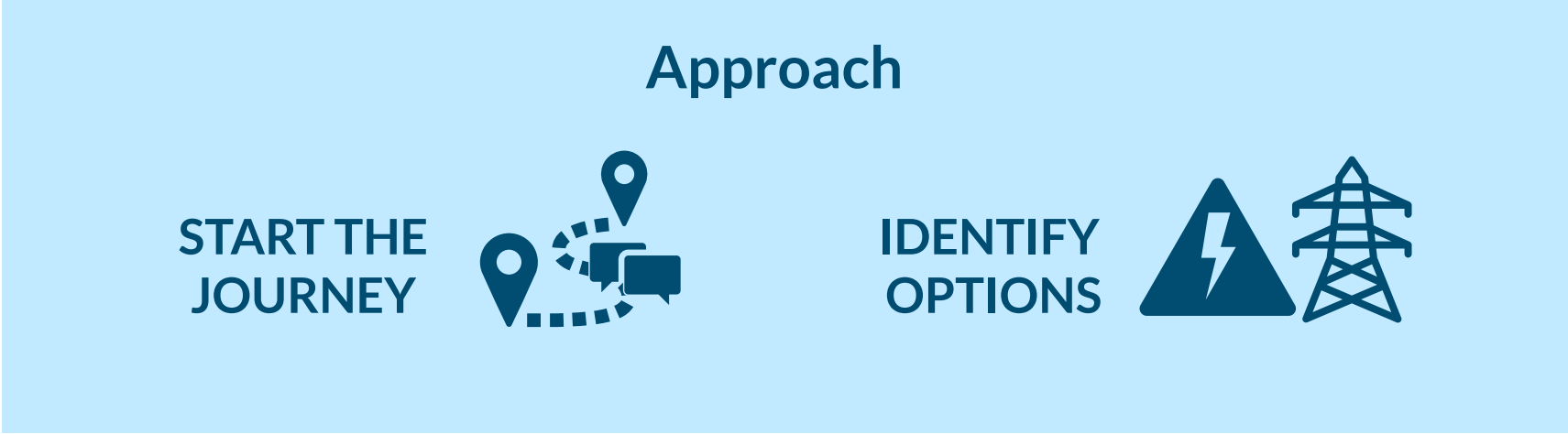
Tranche 2.1 (MTEP24)

MTEP26 Midwest LRTP

- Needs** Support subregional transfers, state and member goals, and load growth
- Process** Evaluate system reliability and economics using models defined by the updated Futures
- Outcome** Solutions for identified issues (subsequent MTEP cycles)

Numbered “tranche” nomenclature is retiring as LRTP continues to progress

MTEP26 South LRTP begins the subregional journey with a collaborative, investigative approach



MTEP26 South LRTP

Needs	Support reliability and load growth
Process	Evaluate system reliability and load-serving needs using models defined by the updated Futures; develop detailed scope with stakeholders, beginning with Louisiana
Outcome	Options to guide next steps, which could include transmission and/or generation solutions for further study

Numbered “tranche” nomenclature is retiring as LRTP continues to progress

Insights from the South Load Pocket Risk Assessment, with a focus on reliability and load growth, will inform the South LRTP study process

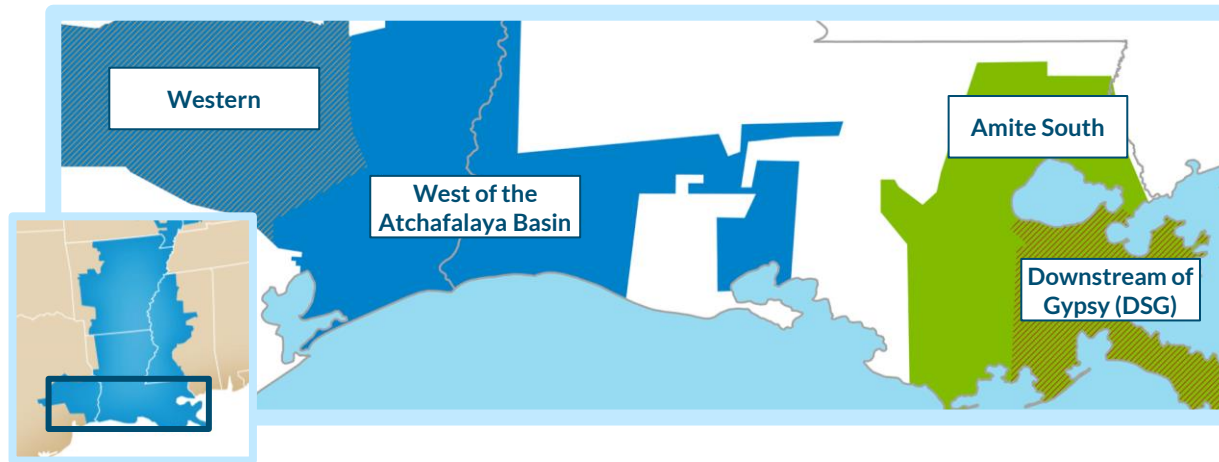
South Load Pocket Risk Assessment

An estimate of
load shed risk

Actionable insights
and support for
next steps

Initial focus on
DSG in southern
Louisiana

MISO South Load Pockets



- Limited import capabilities
- Strong reliance on local generation
- Carry a unique set of reliability, planning and market efficiency challenges

DSG: Downstream of Gypsy

MISO developed a compliance plan with stakeholders for FERC Order 1920 while maintaining flexibility to meet regional and subregional needs

Key Areas for Order 1920 Compliance

Long Range Transmission Planning

A consistent part of the transmission planning process, with required scenarios and benefit metrics

Benefits

Standardized according to a set of seven defined metrics

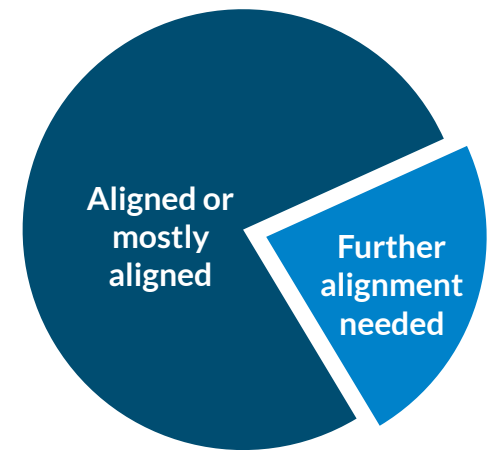
Interregional Planning Agreements

Revised to reflect new long-term planning requirements and expanded data-sharing protocols

Cost Allocation

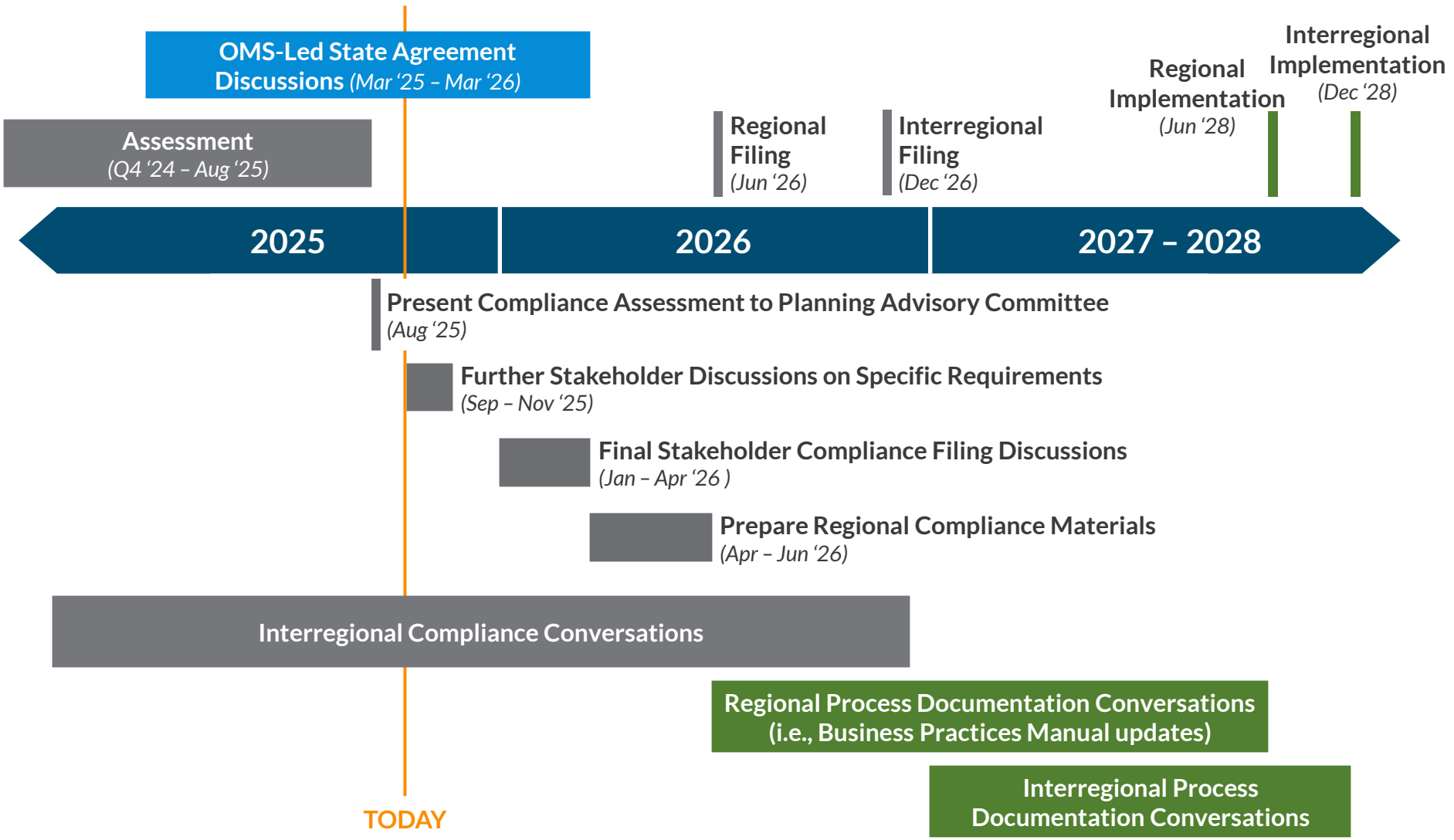
Aligned with state preferences and commensurate with benefits

REQUIREMENTS STATUS



Appendix

MISO is progressing on next steps for Order 1920, including discussions with stakeholders



OMS: Organization of MISO States

